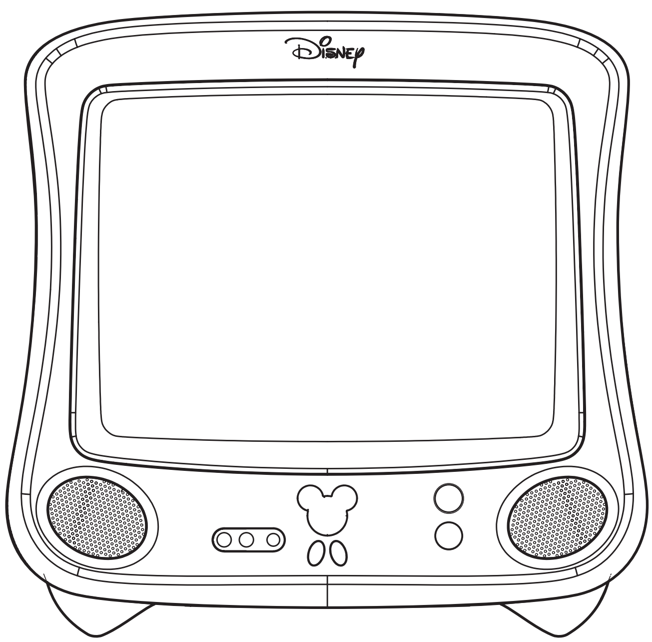
SERVICE MANUAL

13” COLOR TELEVISION

DT1300-C/DT1300-P/DT1300-A



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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SPECIFICATIONS

<TUNER>

ANT. Input ------------------- 75ohm Unbal., F type
Reference Level------------20Vp-p (CRT Green Cathode)
Test Input Signal -----------400Hz 30% modulation

Description	Condition	Unit	Nominal	Limit
1. Intermediate Freq.	Picture Sound	MHz MHz	45.75 41.25	- -
2. Peak Picture Sens	VHF CATV UHF	dBμv dBμv dBμv	15 15 15	30 30 40
3. AFT Pull In Range (10mV input)	-	MHz	±2.0	±0.7

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Deflection Freq.	Horizontal Vertical	KHz Hz	15.734 60	- -
2. Linearity	Horizontal Vertical	% %	- -	±15 ±10
3. Over Scan	-	%	10	-
4. High Voltage	-	KV	23	-

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center Side Corner	mm mm mm	- - -	0.3 1.2 1.5
2. Brightness	APL 100%	Ft-L	60	40
3. Color Temperature	-	°K	9200°K	-
4. Resolution	Horizontal Vertical	Line Line	250 300	- -

<AUDIO>

All items are measured across 8Ω load at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	10% THD	W	1	0.8
2. Audio Distortion (w/LPF)	500mW	%	2	7
3. Audio Freq. Response	–3dB	Hz	100~11K	-

Note:
Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

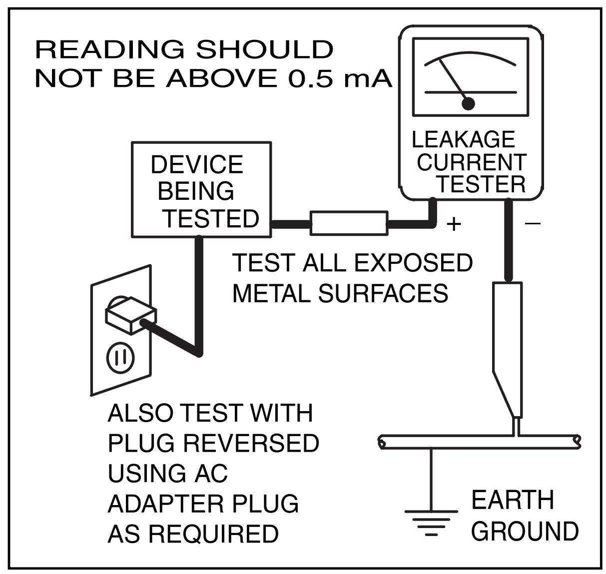
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. **Antenna Cold Check -** With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. **Leakage Current Hot Check -** With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. **X-Radiation and High Voltage Limits -** Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servic-

ing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. **Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas:a. near sharp edges,b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts,c. the AC supply,d. high voltage, and,e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector

The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure

1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

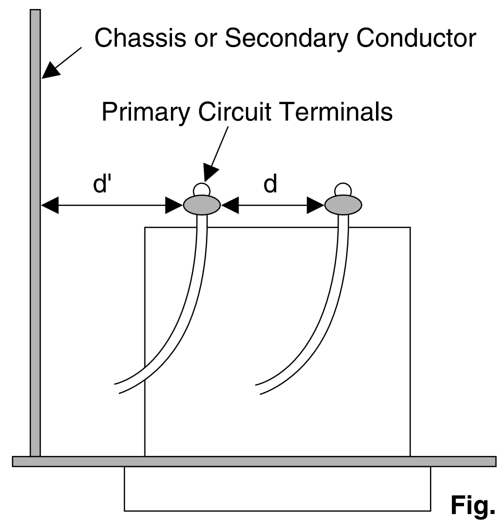


Fig. 1

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

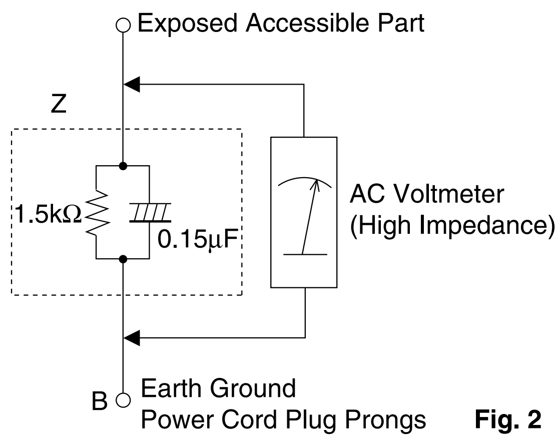


Fig. 2

Table 2 : Leakage current ratings for selected areas

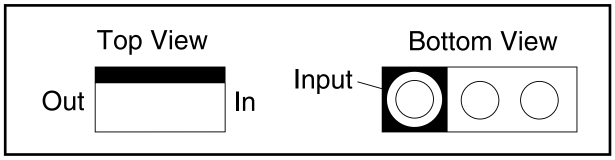
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA	0.15µF CAP. & 1.5kΩ RES. connected in parallel	i≤0.5mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

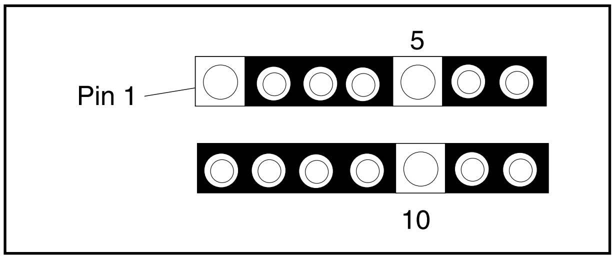
STANDARD NOTES FOR SERVICING

Circuit Board Indications

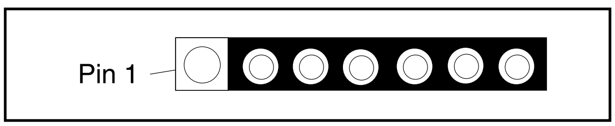
a. The output pin of the 3 pin Regulator ICs is indicated as shown.



b. For other ICs, pin 1 and every fifth pin are indicated as shown.



c. The 1st pin of every male connector is indicated as shown.



How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

(1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

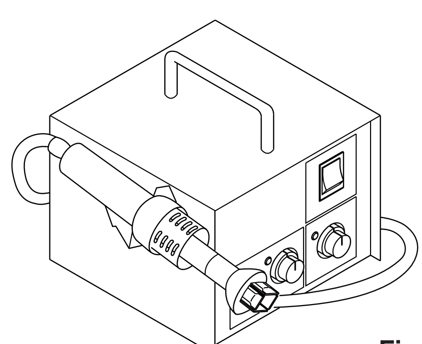


Fig. S-1-1

(2) Remove the flat pack-IC with tweezers while applying the hot air.

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

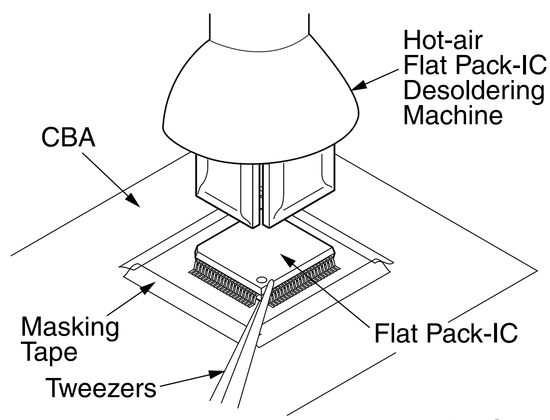


Fig. S-1-2

With Soldering Iron:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

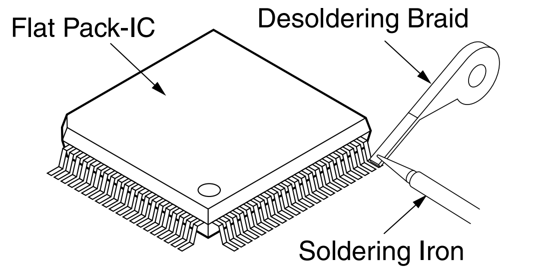


Fig. S-1-3

(2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine.(Fig. S-1-4)

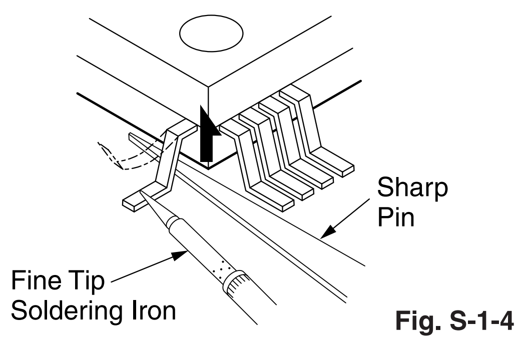


Fig. S-1-4

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

(3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.

(4) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note:

When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

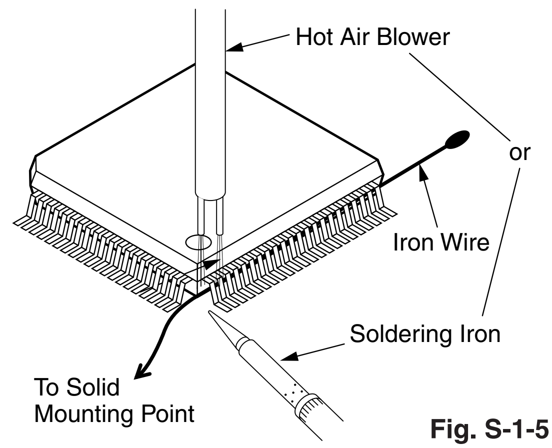


Fig. S-1-5

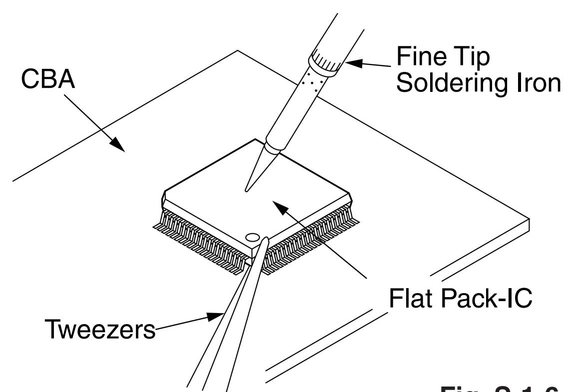


Fig. S-1-6

2. Installation

(1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.

(2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then pre- solder the four corners of the flat pack-IC. (See Fig. S-1-8.)

(3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

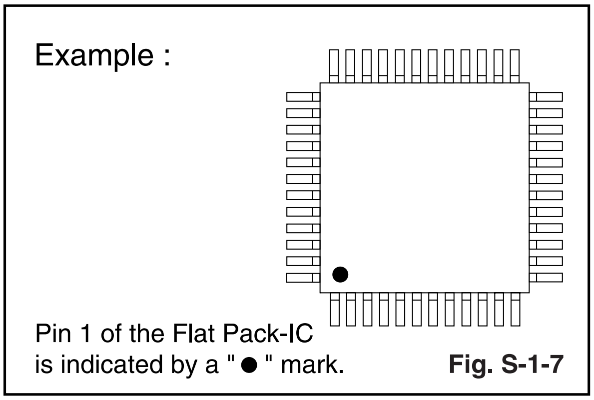


Fig. S-1-7

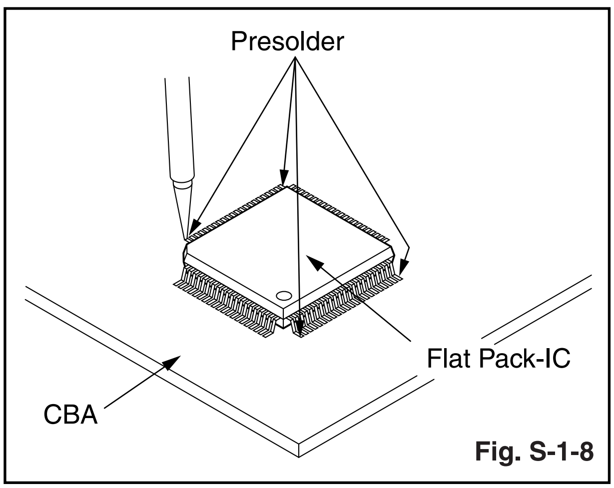


Fig. S-1-8

Instructions for Handling Semiconductors

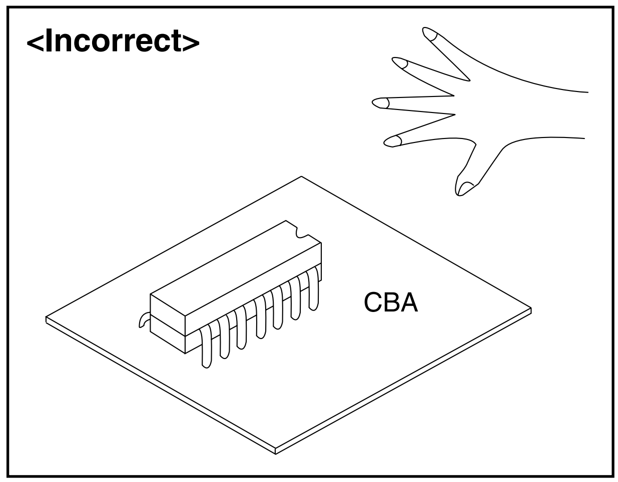
Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

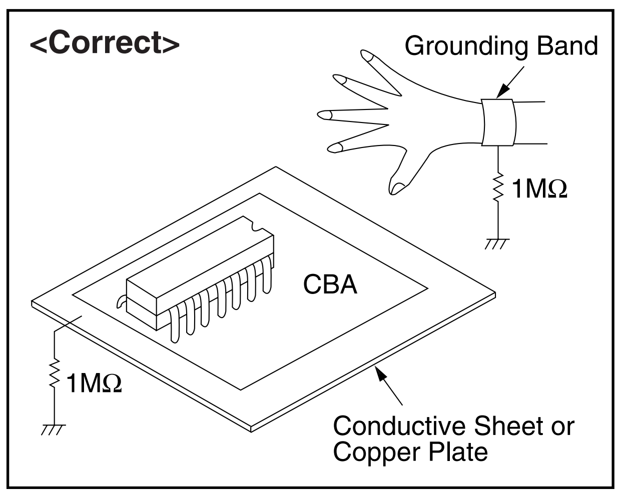
1. Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the workbench or other surface, where the semiconductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors with your clothing.





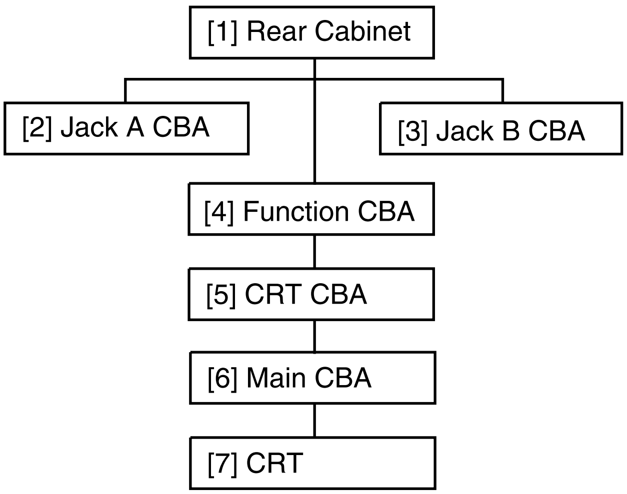
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No	Remove/*unlock/ release/unplug/ unclamp/desolder	Note
[1]	Rear Cabinet	1,2	4(S-1), (S-2), (S-3)	1
[2]	Jack A CBA	2	2(S-4), CN811B	-
[3]	Jack B CBA	2	2(S-5), CN812B	-
[4]	Function CBA	2	5(S-6), CN101B	-
[5]	CRT CBA	4,5	CN501	2
[6]	Main CBA	3,5	CN801A, CN802A, CN691, CN301A, CN571, Anode Cap	3
[7]	CRT	4	4(S-7)	4
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note :

(1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.

(2) Parts to be removed or installed.

(3) Fig. No. showing procedure of part location

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two Screws (S-2)

(5) Refer to the following "Reference Notes in the Table.

Reference Notes in the Table

1. Removal of the Rear Cabinet. Remove screws 4(S-1), (S-2), (S-3), then slide the Rear Cabinet backward.
2. Removal of the CRT CBA. Disconnect CN501 then pull the CRT CBA backward.

Caution !

Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

3. Removal of the Main CBA. First, disconnect CN801A, CN802A, CN691, and CN571 on the Main CBA. Second, remove Anode Cap then slide the Main CBA backward.
4. Removal of the CRT. Remove screws 4(S-7) and Anode Cap then slide the CRT backward.

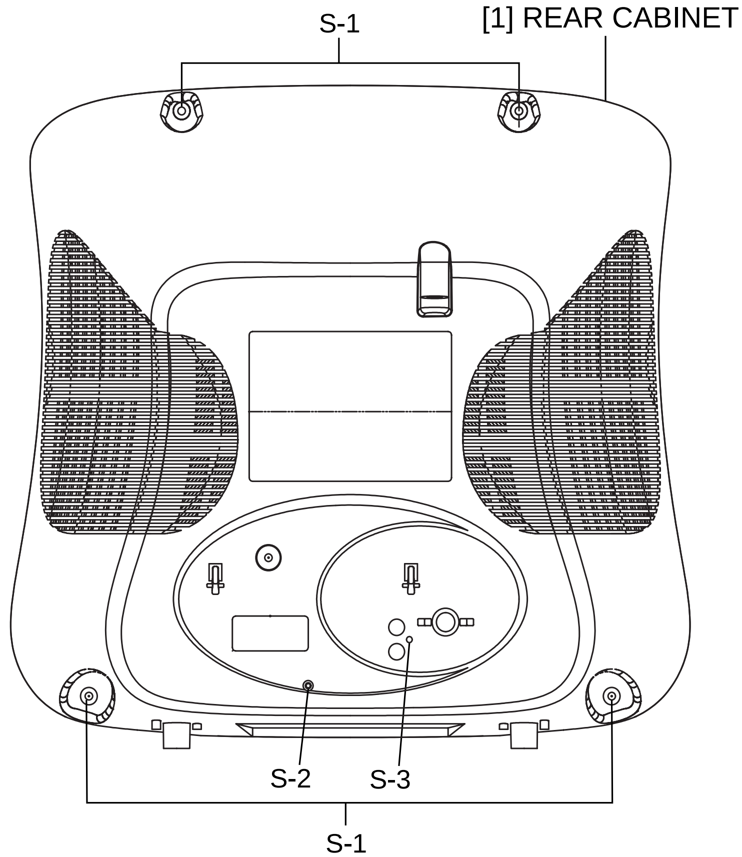

S-1
[1] REAR CABINET
S-2
S-3
S-1

Fig. 1

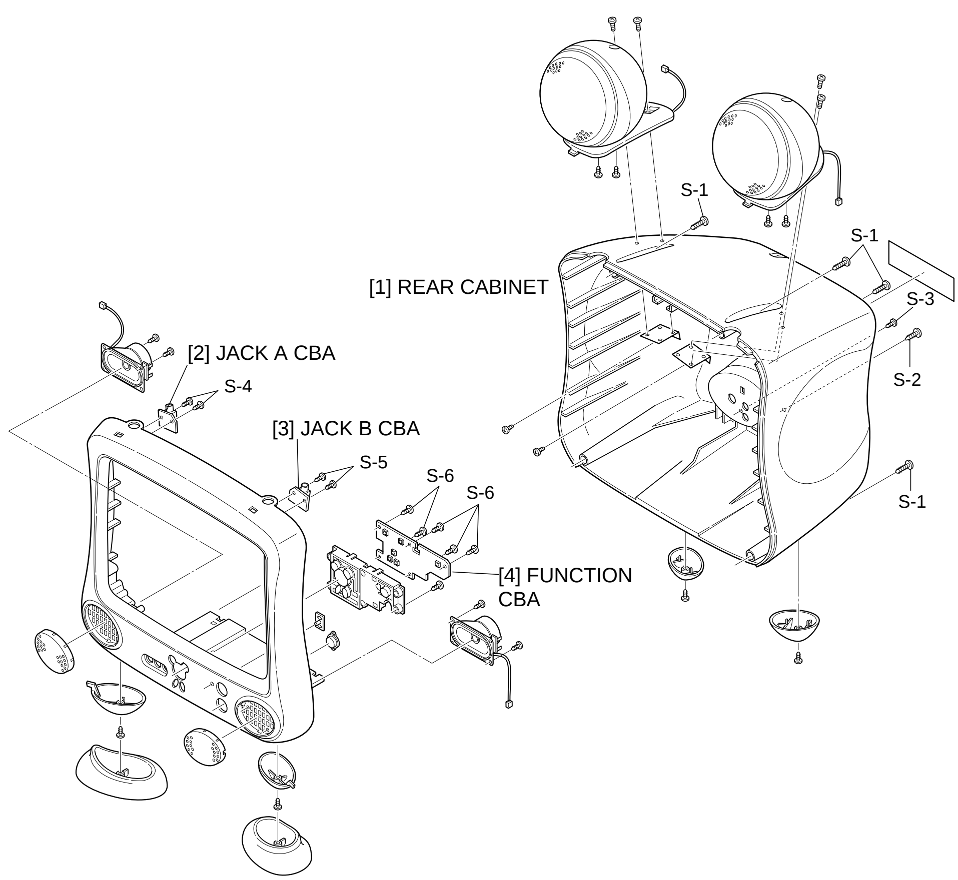

S-1
S-1
S-3
[1] REAR CABINET
S-2
[2] JACK A CBA
S-4
[3] JACK B CBA
S-5
S-6
S-6
S-1
[4] FUNCTION
CBA

Fig. 2

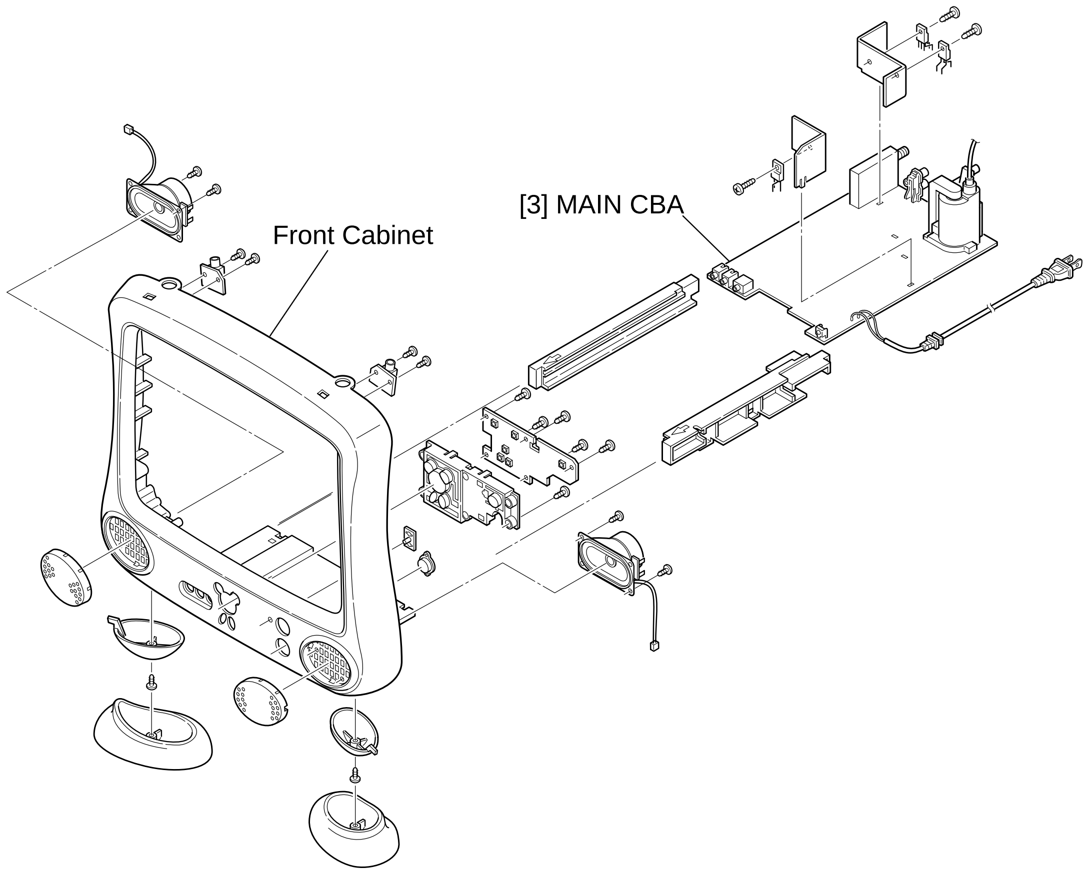

[3] MAIN CBA
Front Cabinet

Fig. 3

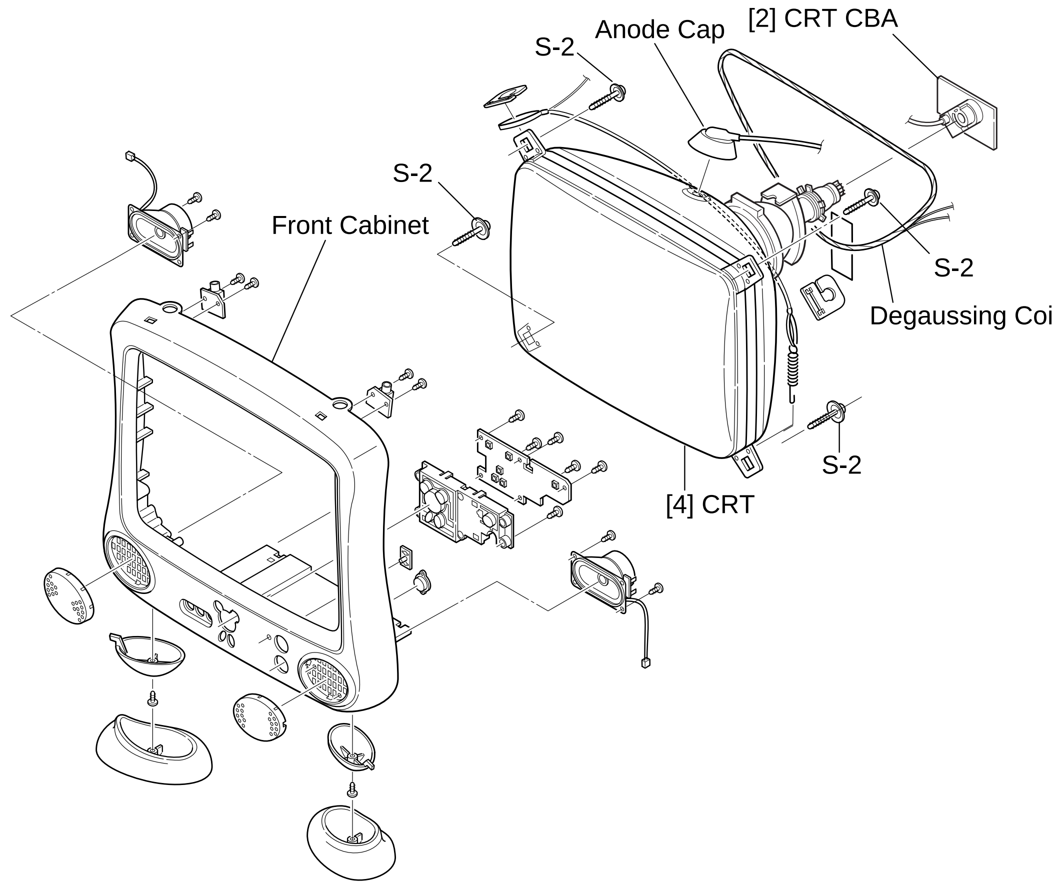

S-2
Anode Cap
[2] CRT CBA
S-2
Front Cabinet
S-2
Degaussing Coil
S-2
[4] CRT

Fig. 4

TV Cable Wiring Diagram

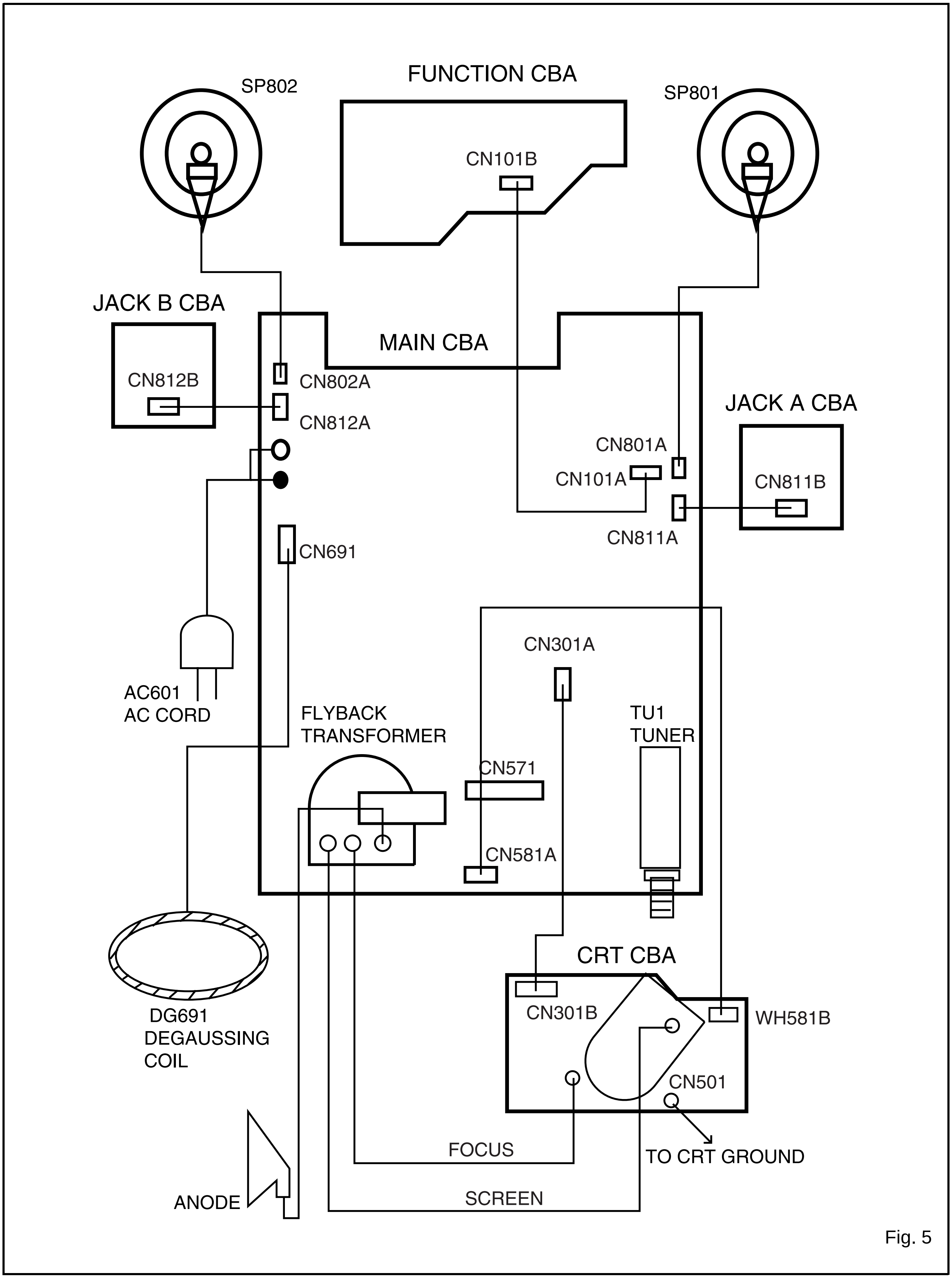


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:
"CBA" is abbreviation for "Circuit Board Assembly".

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. DC Voltmeter
3. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div,
   F-Range: DC~AC-60MHz
4. Plastic Tip Driver
5. Remote control unit:Part No. N0121UD or N0134UD
6. DC power supply 13.2V/5A

How to make Service remote control unit:

1. Prepare normal remote control unit. (Part No. N0121UD or N0134UD) Remove 3 Screws from the back lid. (Fig. 1-1)
2. Add J1 (Jumper Wire) to the remote control CBA. (Fig. 1-2)

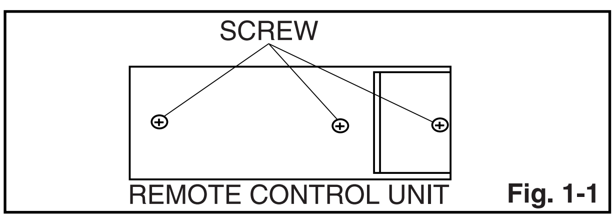


Fig. 1-1

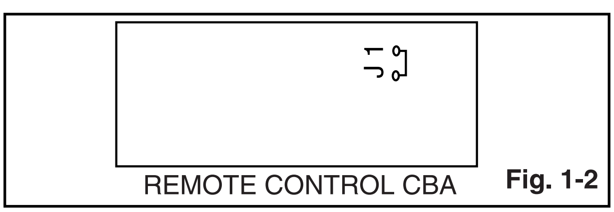


Fig. 1-2

How to set up the service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press "SLEEP" button on the service remote control unit. Version of micro computer will display on the CRT. (Ex: 200-0.07 or 054-0.13)
4. When CPU version is 054-0.13: Check the display on the lower left is "00" and if it is not "00", set it at "00" according to "3-1 FRENCH, ACCESS CODE, VIDEO TONE".
   When CPU version is 200-0.07: Confirm that the character of U (U.S.A. model) is indicated on the bottom left of the CRT. If the character of C (CANADA model) is indicated, perform "3-1 Setting for FRENCH data Values".

1. DC 105V Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and the unit does not operate correctly.

Test Point	Adj. Point	Mode	Input
TP601 TP300 (GND)	VR661	---	---
Tape	**M. EQ.**	**Spec.**	
---	DC Voltmeter	+105±0.5V DC.	

Note: TP601, TP300(GND), VR661 --- Main CBA

1. Connect DC Volt Meter to TP601 and TP300(GND).
2. Adjust VR661 so that the voltage of TP601 becomes +105±0.5V DC.

2. Black Stretch Control Adjustment

Purpose: To show the fine black color.

Symptom of Misadjustment: Black color will not appear correctly.

Note: Use Service remote control unit.

1. Enter the Service mode. (See page 5-1)
2. Press "6" button on the Service remote control unit. "B-S" is indicated.
3. Press "CH▲ / ▼" buttons on the Service remote control unit so that display will change " OFF ", "0", " 1 ", " 2 " and " 3 ". Then choose " B-S OFF ".
4. Press "6" button on the Service remote control unit. " B-S*2 " is indicated.
5. Press "CH▲ / ▼" buttons on the Service remote control unit so that display will change "0", " 1 ". " 2 " and " 3 ". Then choose " B-S*2 0 ".
6. Turn the power off and on again. (Main power button on the TV unit.)

3-1. Setting for 7F and FRENCH data Values

General

1. Enter the Service mode. (See page 5-1)
2. Press "VOL ▼" button on the Service remote control unit. Display changes " C/D ", " VCO ", " 7F ", " FRENCH ", " ACCESS CODE ", " STEREO ", " VIDEO TONE ", " FM-MODE " and " AV-OUT " cyclically when "VOL ▼" button is pressed.

7F

1. Press " VOL ▼ " button on the Service remote control unit. Then select 7F display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit. Then choose 7F=FF.

FRENCH

1. Press "VOL ▼" button on the Service remote control unit. Then select FRENCH display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit. Then choose FRENCH=OFF.

When CPU version is 053-0.11, perform the following settings:

ACCESS CODE ---- set to OFF
VIDEO TONE ---- set to OFF
FM-MODE ---- set to ON
AV-OUT ---- set to OFF
STEREO ---- set to OFF

Note: C/D and **VCO** data values do not need to be adjusted at this moment.

3-2. Setting for CONTRAST, COLOR, TINT, V-TINT and SHARP data Values

General

1. Enter the Service mode. (See page 5-1)
2. Press " MENU " button on the Service remote control unit. Display changes " BRIGHT ", " CONTRAST ", " COLOR ", " TINT ", " V-TINT " and " SHARP " cyclically when " MENU " button is pressed.

CONTRAST (CNT)

1. Press " MENU " button on the Service remote control unit. Then select " CONTRAST " (CNT) display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the value of " CONTRAST " (CNT) becomes 78.

COLOR (CLR)

1. Press " MENU " button on the Service remote control unit. Then select " COLOR " (CLR) display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the value of " COLOR " (CLR) becomes 58.

TINT (TNT)

1. Press " MENU " button on the Service remote control unit. Then select " TINT " (TNT) display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the value of " TINT " (TNT) becomes 60.

V-TINT (V-TNT)

1. Press " MENU " button on the Service remote control unit. Then select " V-TINT " (V-TNT) display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the value of " V-TINT " (V-TNT) becomes 62.

SHARP (SHARP)

1. Press " MENU " button on the Service remote control unit. Then select " SHARP " (SHARP) display.
2. Press "CH ▲ / ▼" buttons on the Service remote control unit and select " SHARP OFF ".

Note: BRIGHT data value does not need to be adjusted at this moment.

4. H f_o Adjustment

Purpose: To get correct horizontal frequency.

Symptom of Misadjustment: . If H f_0 adjustment is in correct, skew distortion will appear on the screen.

Test Point	Adj. Point	Mode	Input
R583	CH▲ / ▼ button ["H-ADJ"] MODE		---
Tape	**M. EQ.**	**Spec.**	
---	Frequency Counter	15.734kHz±300Hz	

Note: R583 --- Main CBA
Use Service remote control unit.

1. Connect Frequency Counter to R583 and ground.
2. Set the unit to the VIDEO mode which is located before CH2 and no input is necessary. Enter the Service mode. (See Page 5-1)
3. Operate the unit for at least 20 minutes.
4. Press " 2 " button on the Service remote control unit and select H-ADJ Mode. (By pressing " 2 " button the display will change from TV AGC to H-ADJ)
5. Press "CH ▲ / ▼" button on the Service remote control unit so that the display will change "0" ~ " 7 ". At this moment, Choose display one of them from "0" ~ " 7 " when the Frequency Counter shows 15.734 kHz±300Hz or closer.
6. Turn the power off and on again. (Main Power button on the TV unit.)

5. VCO Adjustment

Purpose: To operate VCO correctly.

Symptom of Misadjustment: VCO does not work correctly and/or synchronization is faulty.

Test Point	Adj. Point	Mode	Input
---	---		No signal
Tape	**M. EQ.**	**Spec.**	
---	---	---	

Note: Use service remote control unit.

1. Disconnect the RF input and set the unit to Channel 4.
2. Enter the Service mode. (See Page 5-1)
3. Press " 3 " button on the Service remote control unit. The Auto VCO adjustment is started.
4. If the display color is changed from red to green, This adjustment is done.
5. Turn the Power off and on again. (Main power button on the TV unit.)

6-1. AGC Adjustment

Purpose: Set AGC (Auto Gain Control) Level.

Symptom of Misadjustment: AGC does not synchronize correctly when RF input level is too weak and picture distortion may occur if it is too strong.

Test Point	Adj. Point	Mode	Input
TP301	CH▲ / ▼ buttons	RF	Color Bar 67.25MHz 60dBµV
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator DC Volt Meter	+2.7±0.1VDC	

Notes: TP301 --- Main CBA
Use Service remote control unit.

1. Enter the Service mode. (See Page 5-1) Then press number " 2 " button on the Service remote control unit.
2. Receive the Color Bar signal for channel 4 (67.25MHz). (RF Input Level: 60dBµV)
3. Press "CH ▲ / ▼" buttons so that the voltage of TP301 becomes +2.7±0.1V DC.
4. Turn the Power off and on again. (Main power button on the TV unit.)

6-2. FM AGC Adjustment

1. Enter the Service mode. (See page 5-1.) Then press number "2" button twice on the remote control unit.
2. Press CH.▲ / ▼ buttons so that the FM AGC (MAX) level is 127.

7. Black Level Adjustment

Purpose: Set Sub-bright Level

Symptom of Misadjustment: If Sub-brightness is incorrect, Proper brightness can not be obtained by adjusting the Brightness Control.

Note: TP300 (GND), D316 (Cathode) --- MAIN CBA

1. Enter the Service mode. (See page 5-1).
2. Press " MENU " button on the Service remote control unit and select " BRT " mode. (Display changes " BRT ", " CNT ", " CLR " and " TNT " cyclically when MENU button is pressed).
3. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the value of " BRT " becomes 128.
4. Turn the power off and on again. (Main power button on the TV unit.)

8. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appears on the screen.

Test Point	Adj. Point	Mode	Input
D316 (Cathode) (Blue) TP300 (GND)	CH▲ / ▼ buttons	RF	Color Bar
Tape	**M. EQ.**	**Spec.**	
---	Oscilloscope	---	

Note: TP300 (GND), D316 (Cathode) --- MAIN CBA
Use Service remote control unit.

1. Connect Oscilloscope to D316 (Cathode) and TP300 (GND).
2. Enter the Service mode. (See Page 5-1) Receive color bar signal from RF Input.
3. Press "0" button on the Service remote control unit and select C-TRP Mode.
4. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the display will change "0", " 1 ", " 2 " and " 3 ". Choose display "0", " 1 ", " 2 " or " 3 " when B-Out (3.58MHz) value becomes minimum on the oscilloscope reading.
5. Turn the power off and on again. (Main power button on the TV unit.)

9. V. Size Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of Misadjustment: If V.Size is incorrect, vertical size of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Screen Control CH▲ / ▼ buttons [V-S] Mode	RF	Mono-scope
Tape	**M. EQ.**	**Spec.**	
---	Monoscope	90±5%	

Note: Use service remote control unit.

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See page 5-1)
3. Receive the Monoscope Pattern.
4. Press " 9 " button on the Service remote control unit and select " V-S " mode. (Display changes " V-S " and " V-P " cyclically when " 9 " button is pressed).
5. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the monoscope pattern will be 90±5% of display size and the circle is round.
6. Turn the power off and on again. (Main power button on the TV unit.)

10. V. Position Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of misadjustment: If V. Position is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Screen Control CH▲ / ▼ buttons [V-P] Mode	RF	Mono-scope
Tape	**M. EQ.**	**Spec.**	
---	Monoscope	90±5%	

Note: Use Service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service Mode. (See page 5-1)
3. Receive the Monoscope Pattern.
4. Press " 9 " button on the Service remote control unit and select " V-P " mode. (Display change " V-S " and " V-P " cyclically when " 9 " button is pressed).
5. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the top and bottom of the monoscope pattern will be equal of each other.
6. Turn the Power off and on again. (Main power button on the TV unit.)

11. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: If H. Position is incorrect, horizontal position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Screen Control CH▲ / ▼ buttons [H-P] Mode	RF	Mono-scope
Tape	**M. EQ.**	**Spec.**	
---	Monoscope	90±5%	

Note: Use Service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See page 5-1)
3. Receive the Monoscope Pattern.
4. Press " 8 " button on the remote control unit and select " H-P " mode.
5. Press "CH ▲ / ▼" buttons on the Service remote control unit so that the monoscope pattern will be 90±5% of display size and the circle is round.
6. Turn the Power off and on again. (Main power button on the TV unit.)

12. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adj. Point	Mode	Input
---	Screen-Control CH▲ / ▼ buttons	RF	Black Raster
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See Reference Notes below.	

Figure

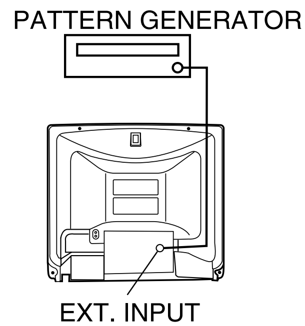


Fig 2

Note: Screen Control FBT --- Main CBA
F.B.T= Fly Back Transformer
Use Service remote control unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black Raster Signal from RF Input.
3. Enter the Service mode. (See page 5-1)
4. Press "VOL ▼" button on the Service remote control unit and select " C/D " mode. (Display changes " C/D ", " VCO ", " 7F " and " FRENCH " cyclically when "VOL ▼" button is pressed.) then press " 1 ". The display will momentarily show " CUT OFF R " (R= Red). Now there should be a horizontal line across the center of the picture tube. If needed gradually turn the screen control on the flyback, clockwise until the horizontal line appears. Adjust the Red Cut off by pressing the "CH ▲ / ▼" buttons. Proceed to Step 5 when the Red Cut off adjustment is done.
5. Press the " 2 " button. The display will momentarily show " CUT OFF G " (G=Green). Adjust the Green Cut off by pressing the "CH ▲ / ▼" buttons. Proceed to step 6 when the Green Cut off adjustment is done.
6. Press the " 3 " button. The display will momentarily show " CUT OFF B " (B=Blue). Adjust the Blue cut off by pressing the "CH ▲ / ▼" buttons. When done with steps 4, 5 and 6 the horizontal line should be pure white if not, then attempt the Cut off adjustment again.

13. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	Screen-Control CH▲ / ▼ buttons	RF	White Raster (APL 100%)
Tape	**M. EQ.**	**Spec.**	
	Pattern Generator, Color analyzer	See below	

Figure

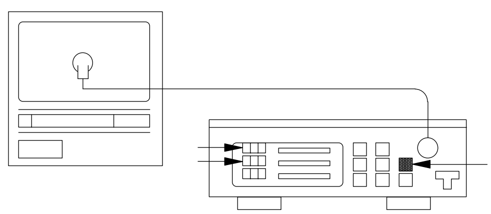


Fig. 3

Note: Use Service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to east. Degauss the CRT using Degaussing Coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode. Press "VOL ▼" button on the Service remote control unit and select " C/D " mode. (Display changes " C/D ", "VCO ", " 7F " and " FRENCH " cyclically when "VOL ▼" button is pressed.) then Press No. 8 button on the Service remote control Unit.
6. Press No. 4 button on the service remote control unit for Red adjustment. Press N0. 5 button on the Service remote control unit for Blue adjustment.
7. In each color mode, Press "CH ▲ / ▼" button to adjust the values of color.
8. Adjusting Red and Blue color so that the temperature becomes 9200K (x : 286 / y : 294) ±3%.
9. At this time, Re-check that Horizontal line is white. If not, Re-adjust Cut-off Adjustment until the Horizontal Line becomes pure white.
10. Turn off and on again to return to normal mode. Receive APL 100% white signal and Check Chroma temperatures become 9200K (x : 286 / y : 294) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

14. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	CH▲ / ▼ buttons	RF	IQW
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Figure

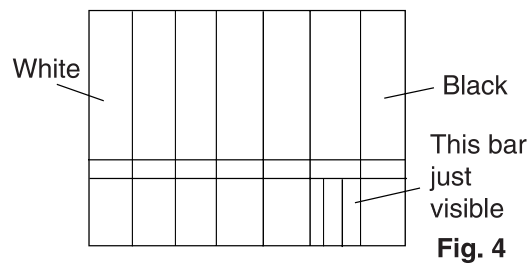


Fig. 4

Note: IQW Setup level --- 7.5 IRE
Use Service remote control unit

1. Enter the Service mode. (See page 5-1)
   Then input IQW signal from RF Input.
2. Press " MENU " button on the Service remote control unit and Select " BRT " mode. (Display changes " BRT ", " CNT ", " CLR ", and " TNT " cyclically when MENU button is pressed). Press "CH ▲ / ▼" buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again. (Main power button on the TV unit.)

15. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus Control	RF	Mono-scope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Note: Focus VR (FBT) --- Main CBA FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes
2. Face the unit to the East and Degauss the CRT using Degaussing Coil.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

The following 2 adjustments normally are not attempted in the field. Only when replacing the CRT then adjust as a preparation.

16. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	Red Color
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below.	

Figure

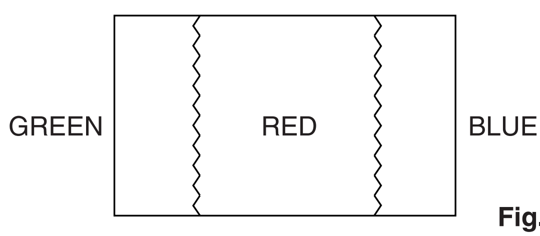


Fig. 5

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6)
5. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5,6)
6. Slowly push the Deflection Yoke toward bell of CRT and set it where a uniform red field is obtained.
7. Tighten the clamp screw on the Deflection Yoke.

17. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adj. Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below.	

Figure

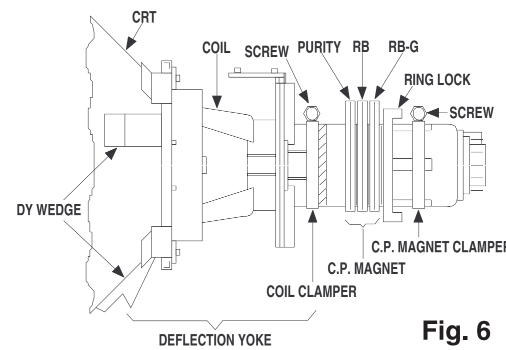


Fig. 6

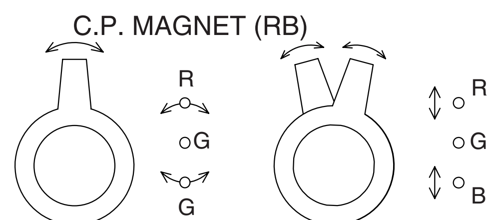


Fig. 7

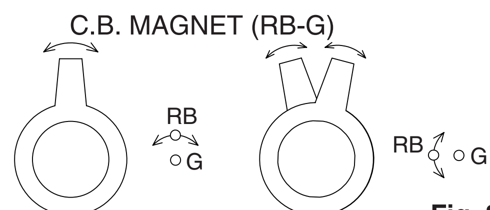
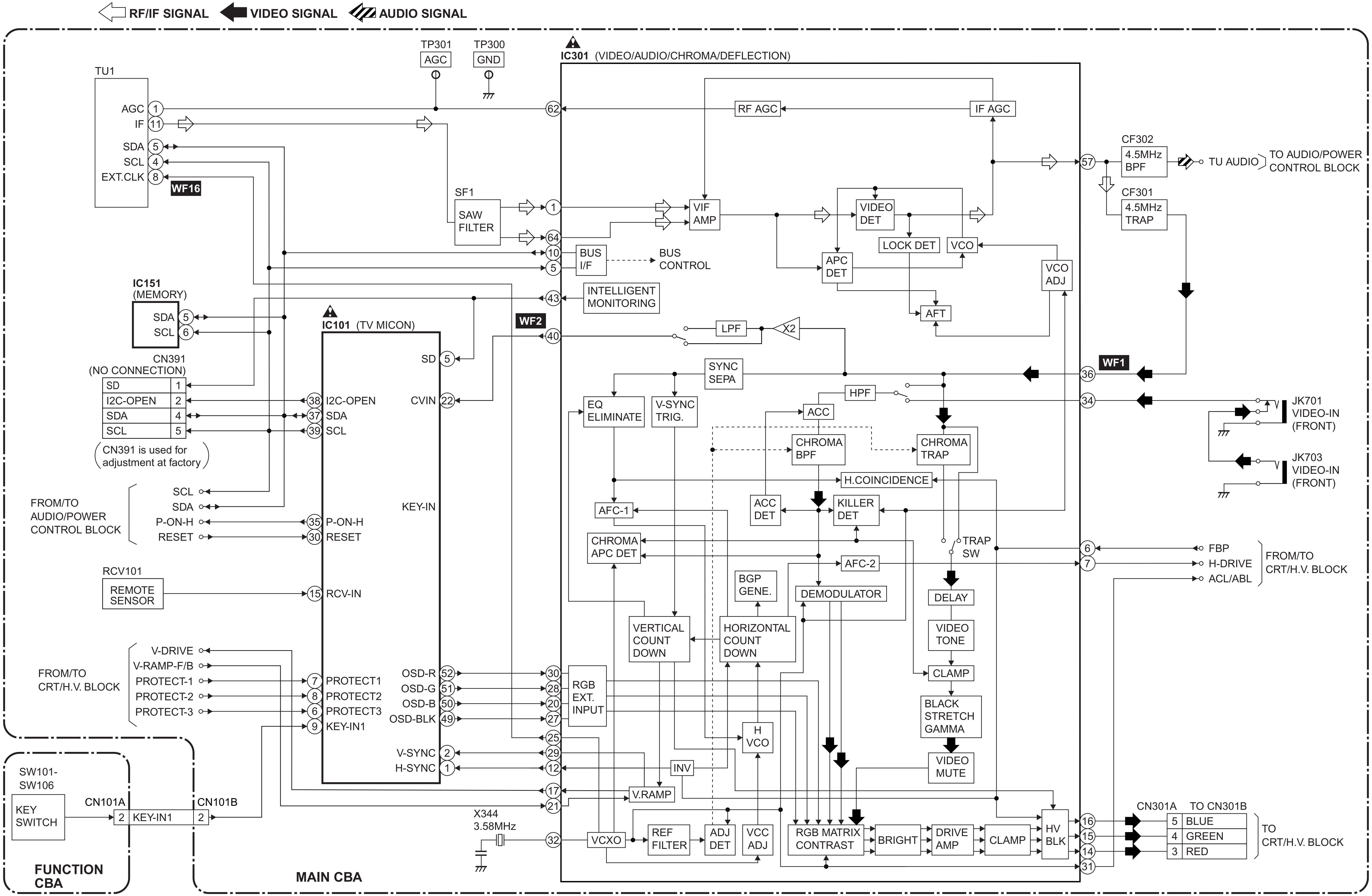


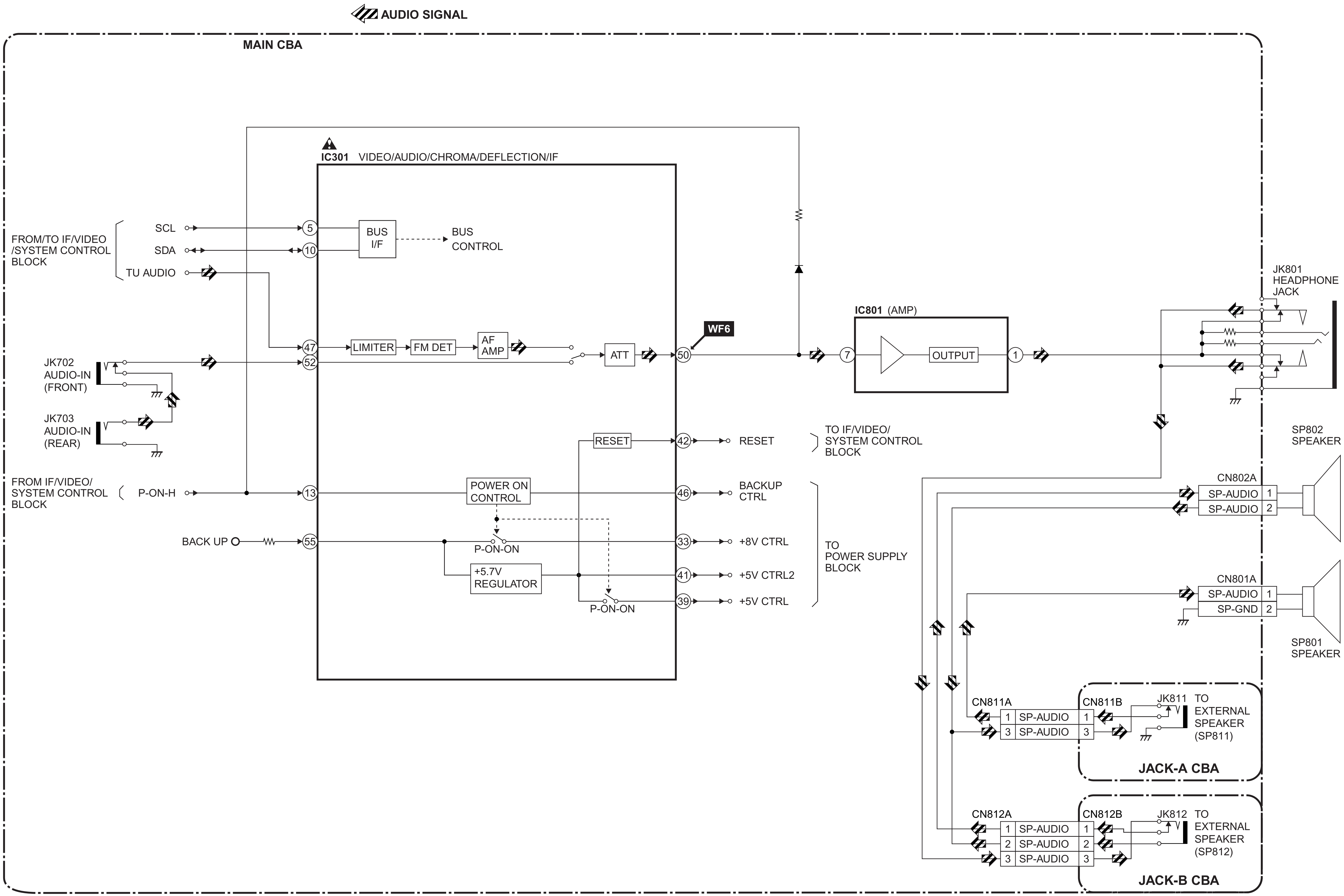
Fig. 8

1. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7)
2. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8)
3. Fix the C.P. Magnets by tightening the Ring Lock.
4. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
5. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

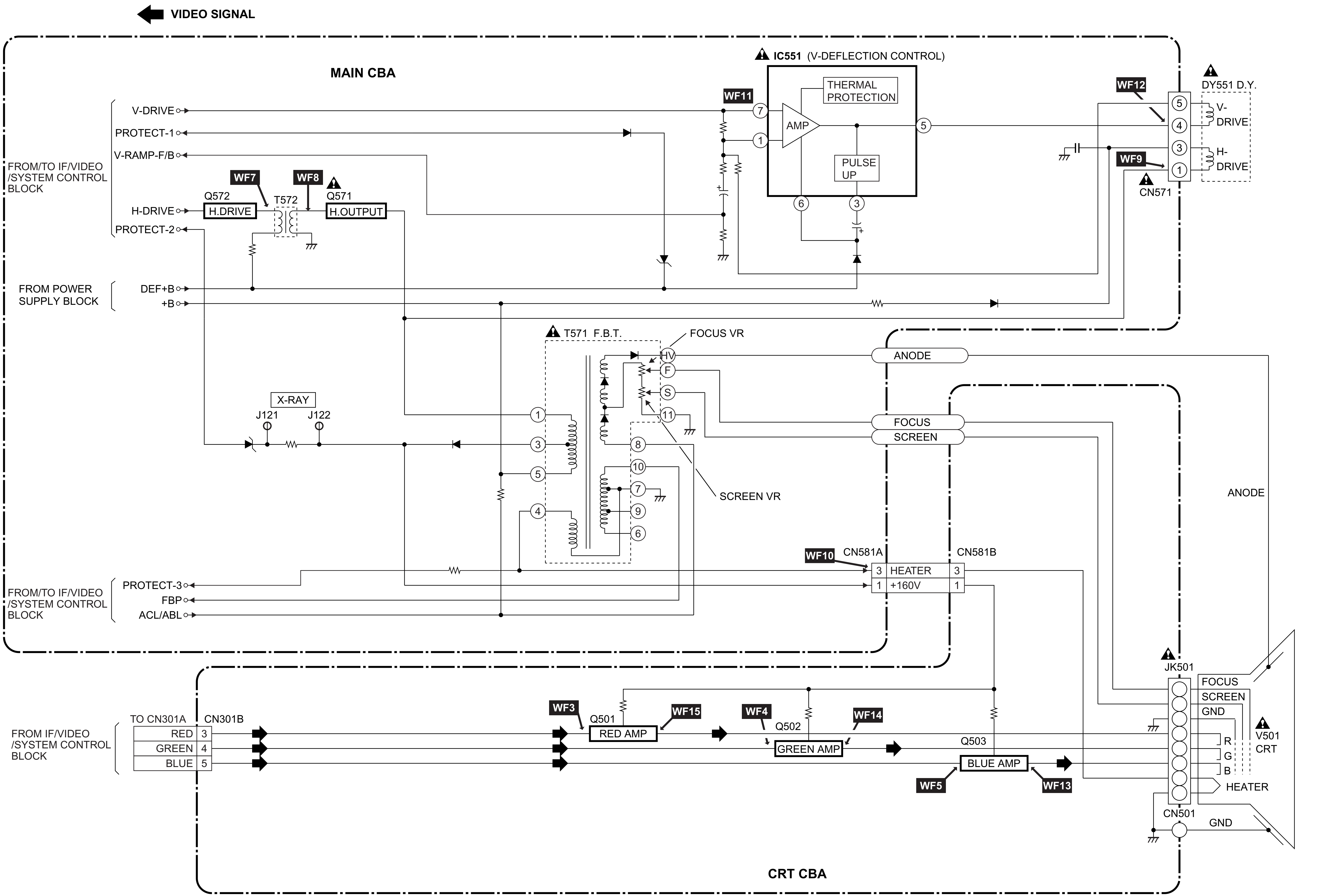
IF/Video/System Control Block Diagram



Audio/Power Control Block Diagram



CRT/H.V. Block Diagram



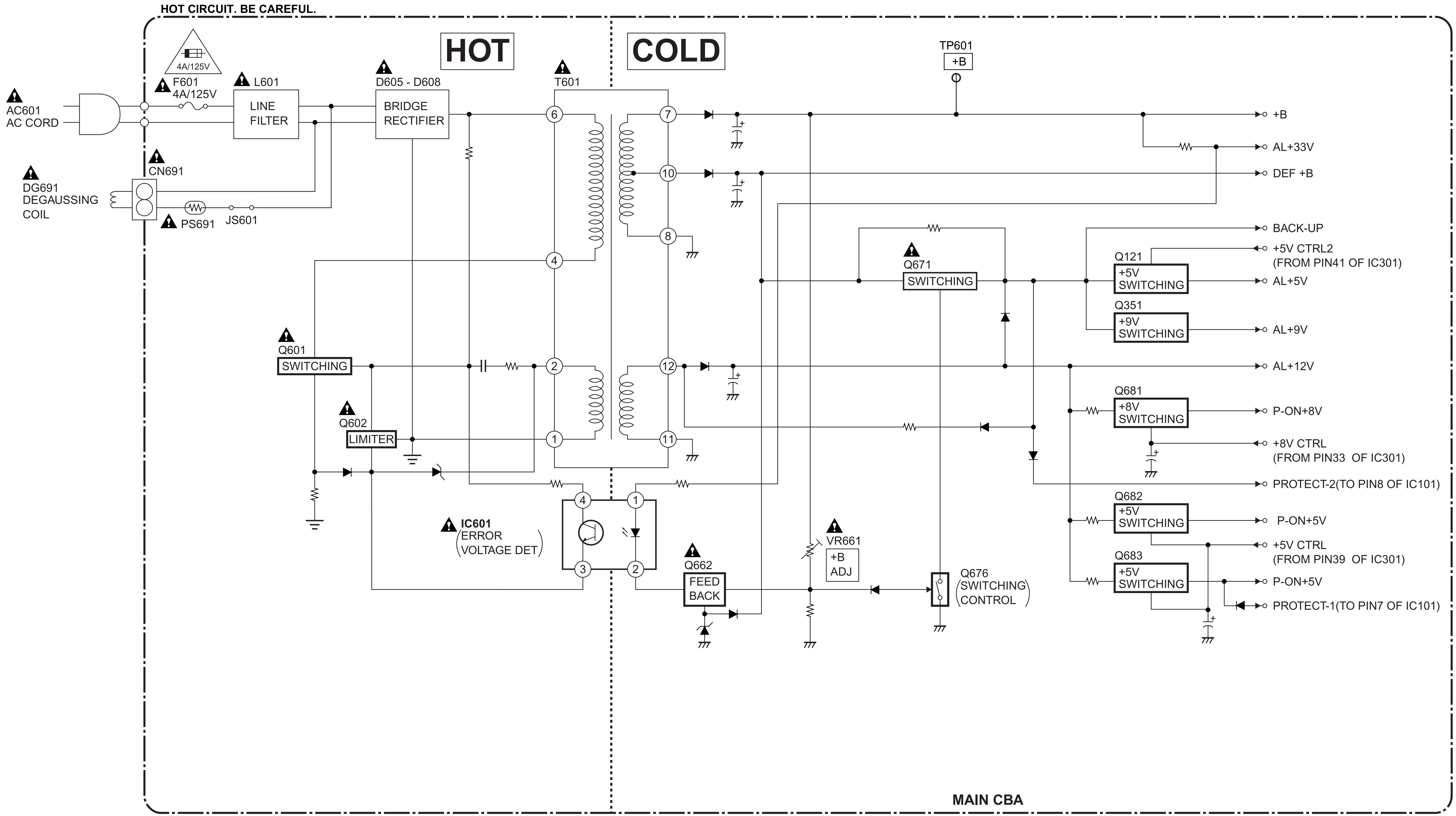
Power Supply Block Diagram

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE 4 A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms (K=10^3, M=10^6).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in µF (P=10^{-6}µF).
5. All voltages are DC voltages unless otherwise specified.

Note of Capacitors:

ML --- Mylar Cap. PP --- Metallized Film Cap. SC --- Semiconductor Cap. L --- Low Leakage type

Temperature Characteristics of Capacitors are noted with the following:

B --- ±10% CH --- 0±60ppm/°C CSL --- +350~-1000ppm/°C

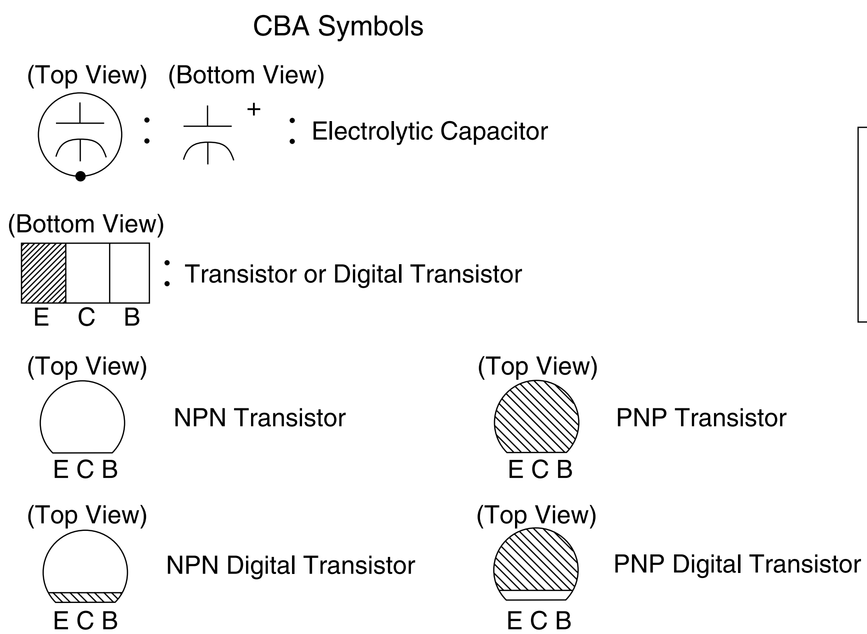
Tolerance of Capacitors are noted with the following:

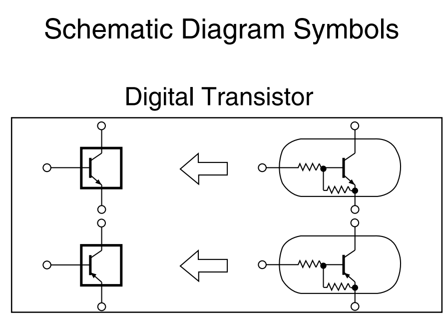
Z --- +80~-20%

Note of Resistors:

CEM --- Cement Res. MTL --- Metal Res. F --- Fuse Res.

Capacitors and transistors are represented by the following symbols.





LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. **CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

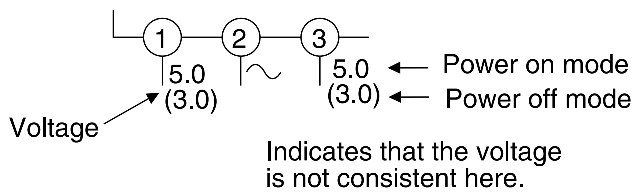
4. **Wire Connectors**

(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).

(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

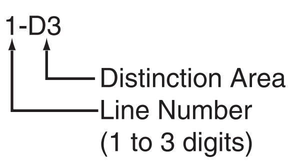
5. **Note:** Mark "●" is a leadless (chip) component.

6. **Voltage indications on the schematics are as shown below:**
Plug the TV power cord into a standard AC outlet.:

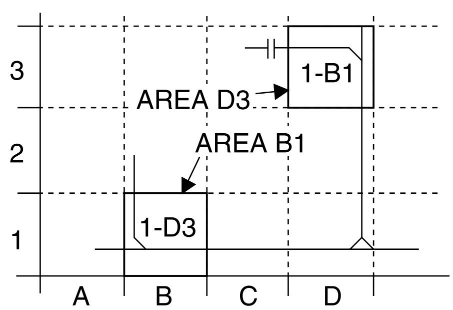


Unit: Volts

7. **How to read converged lines**



Examples:
1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



8. **Test Point Information**

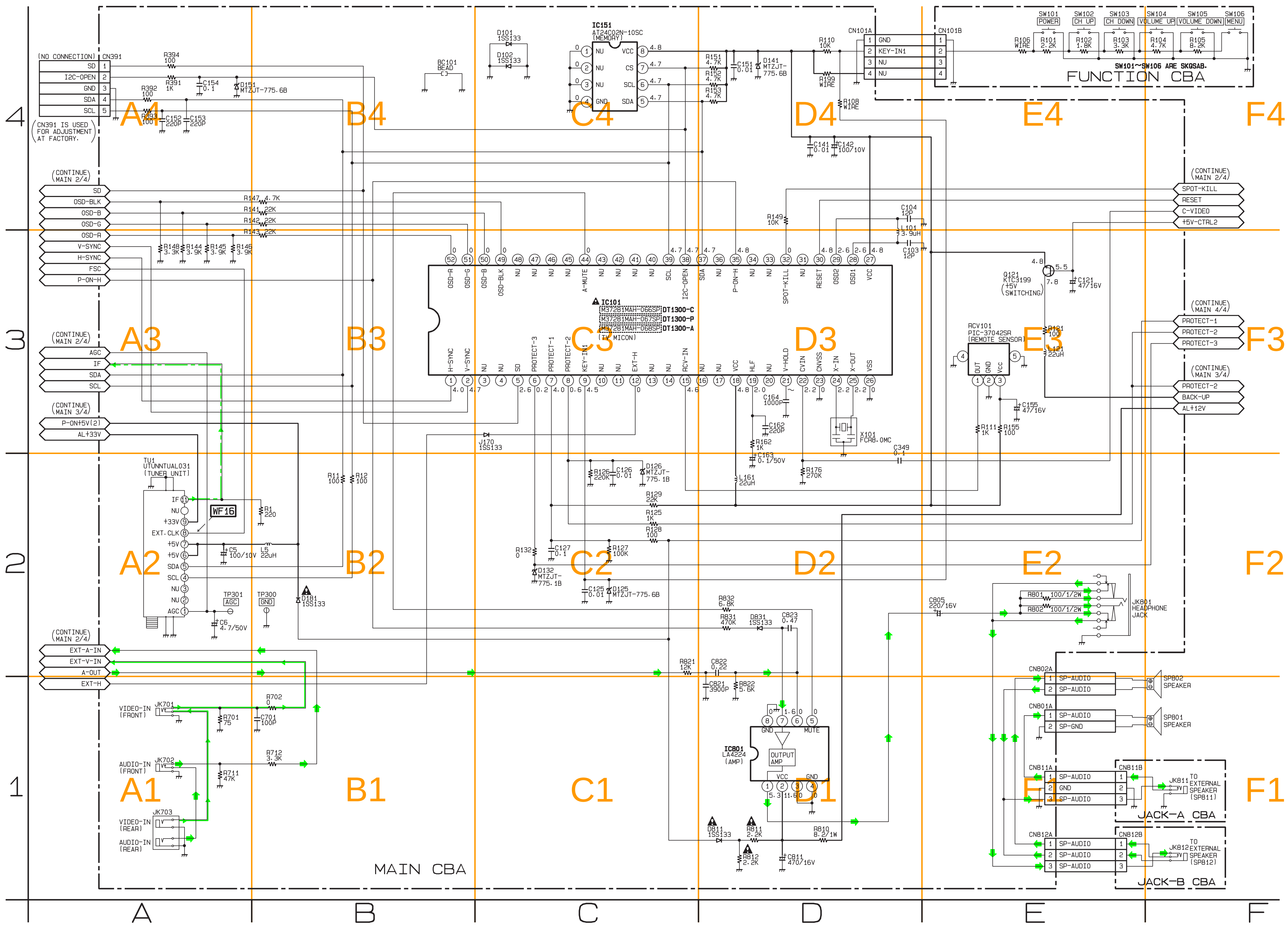
: Indicates a test point with a jumper wire across a hole in the PCB.
: Used to indicate a test point with a component lead on foil side.
: Used to indicate a test point with no test pin.
: Used to indicate a test point with a test pin.

Main 1/4 Schematic Diagram

IF SIGNAL

VIDEO SIGNAL

AUDIO SIGNAL

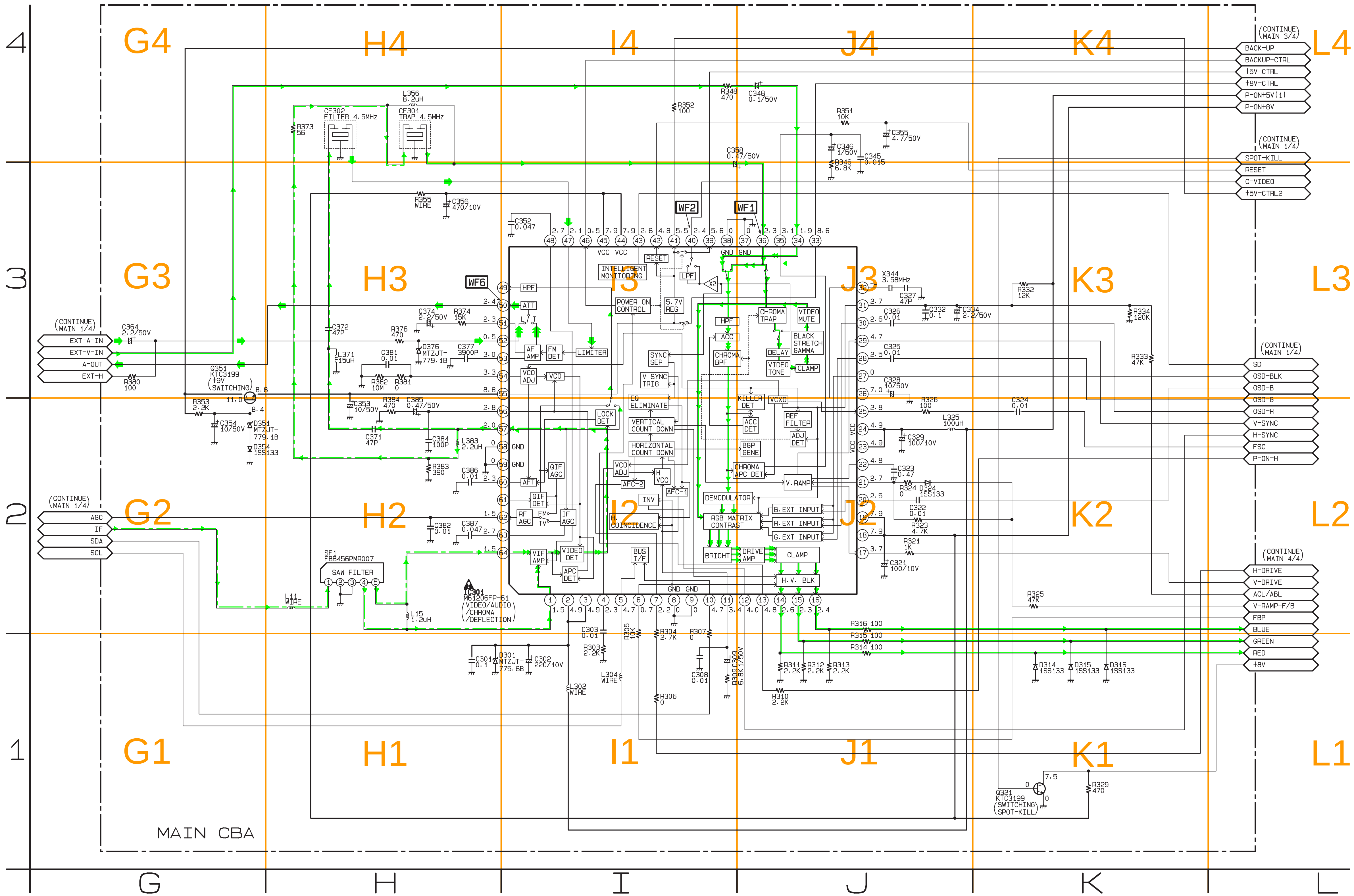


MAIN 1/4

Ref No.	Position
ICS	
IC101	C-3
IC151	C-4
IC801	D-1
TRANSISTOR	
Q121	E-4
CONNECTORS	
CN391	A-4
CN101A	D-4
CN801A	E-1
CN802A	E-2
CN811A	E-1
CN812A	E-1
TEST POINTS	
TP300	B-2
TP301	A-2

Main 2/4 Schematic Diagram

IF SIGNAL
VIDEO SIGNAL
AUDIO SIGNAL



MAIN 2/4

Ref No.	Position
IC	
IC301	H-2
TRANSISTOR	
Q321	K-1
Q351	G-3

Main 3/4 Schematic Diagram

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

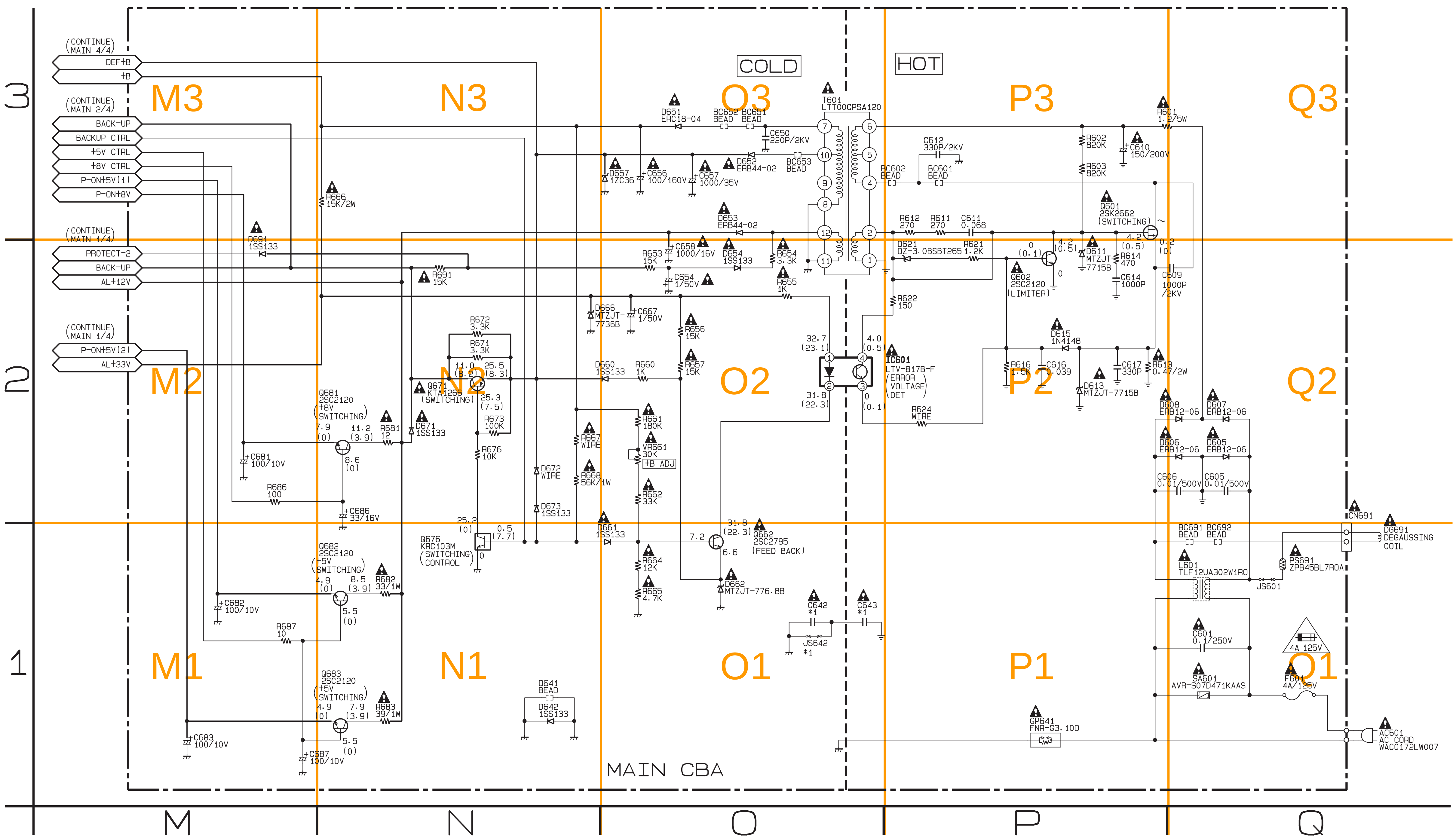
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

***1 NOTE:**
The Capacitor (C643) is either type A or type B. These two types are exchangeable and can be equally used whichever the model is . The difference between type A and type B is shown in the table below.

	C643	C642	JS642
Type A	0.01/250V	0.01/250V	Not Used
Type B	4700P/250V	Not Used	WIRE

MAIN 3/4

Ref No.	Position
IC	
IC601	P-2
TRANSISTORS	
Q601	P-3
Q602	P-2
Q662	O-1
Q671	N-2
Q676	N-1
Q681	N-2
Q682	N-1
Q683	N-1
CONNECTORS	
CN691	Q-2
VARIABLE RESISTOR	
VR661	O-2



L6310SCM3

Main 4/4 & CRT Schematic Diagram

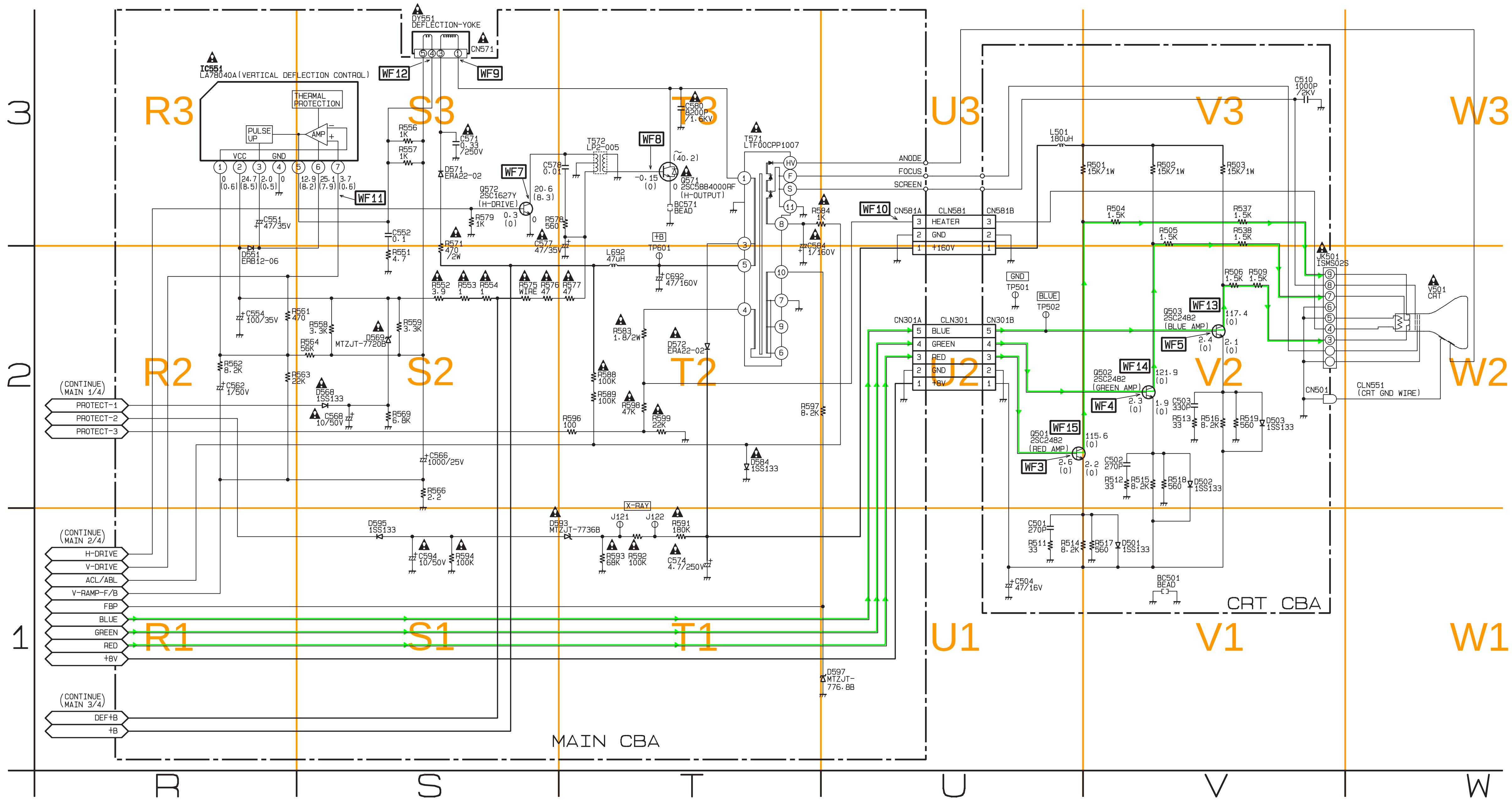
MAIN 4/4

Ref No.	Position
IC	
IC551	R-3
TRANSISTORS	
Q571	T-3
Q572	S-3
CONNECTORS	
CN571	S-3
CN301A	U-2
CN581A	U-3
TEST POINT	
TP601	T-2

CRT

Ref No.	Position
TRANSISTORS	
Q501	U-2
Q502	V-2
Q503	V-2
CONNECTORS	
CN501	V-2
CN301B	U-2
CN581B	U-3
TEST POINTS	
TP501	U-2
TP502	U-2

VIDEO SIGNAL



Main CBA Top View

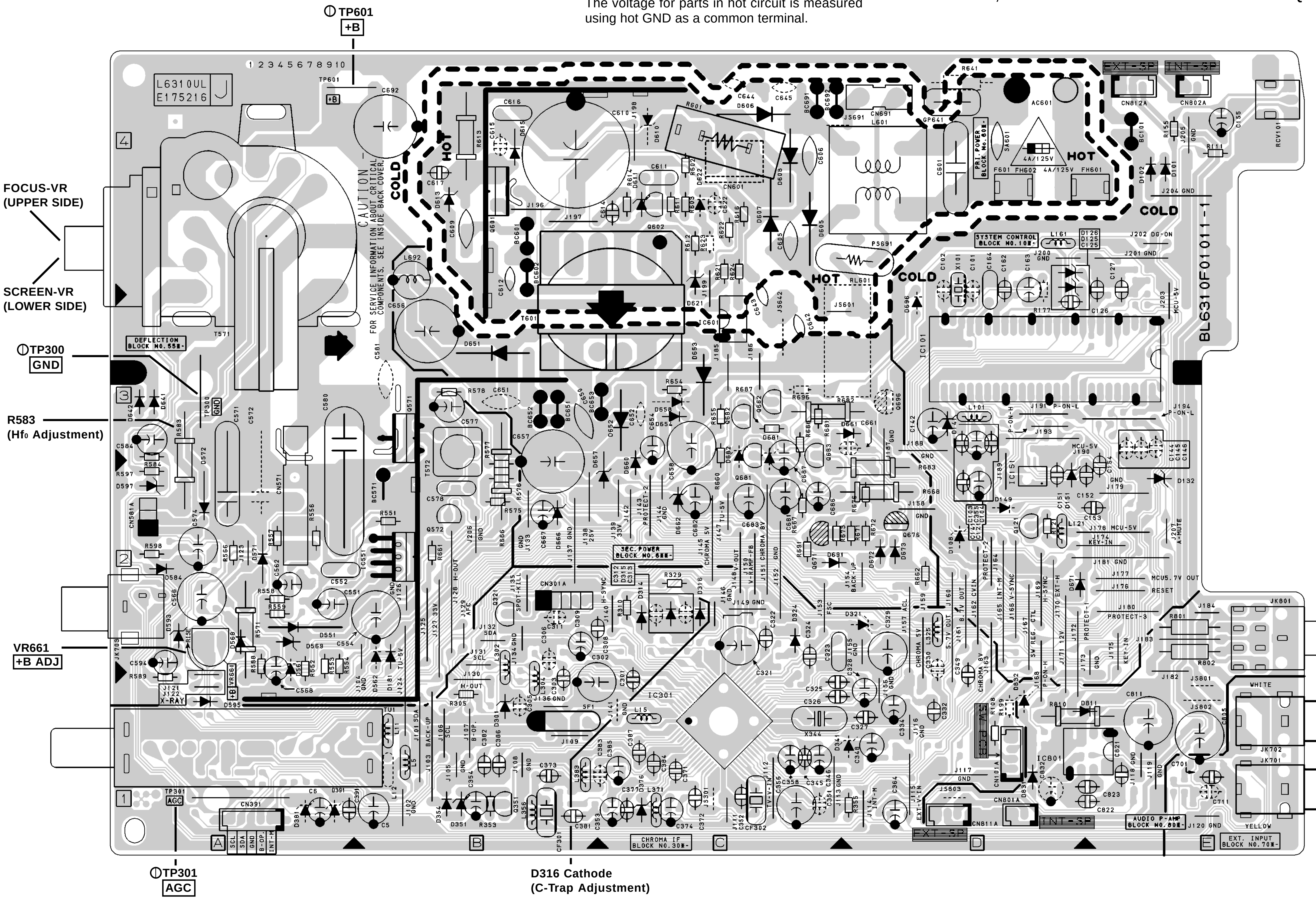
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



MAIN CBA

Ref No.	Position
ICS	
IC101	D-3
IC151	D-2
IC301	C-1
IC551	B-2
IC601	C-3
IC801	D-1
TRANSISTORS	
Q121	D-2
Q321	B-2
Q351	B-1
Q571	B-3
Q572	B-2
Q601	B-4
Q602	C-4
Q662	C-3
Q671	C-2
Q676	D-2
Q681	C-2
Q682	C-3
Q683	C-3
CONNECTORS	
CN391	A-1
CN571	A-2
CN691	D-4
CN101A	D-1
CN301A	B-2
CN581A	A-2
CN801A	D-1
CN802A	E-4
CN811A	D-1
CN812A	E-4
TEST POINTS	
TP300	A-3
TP301	A-1
TP601	A-4
VARIABLE RESISTOR	
VR661	A-1

Main CBA Bottom View

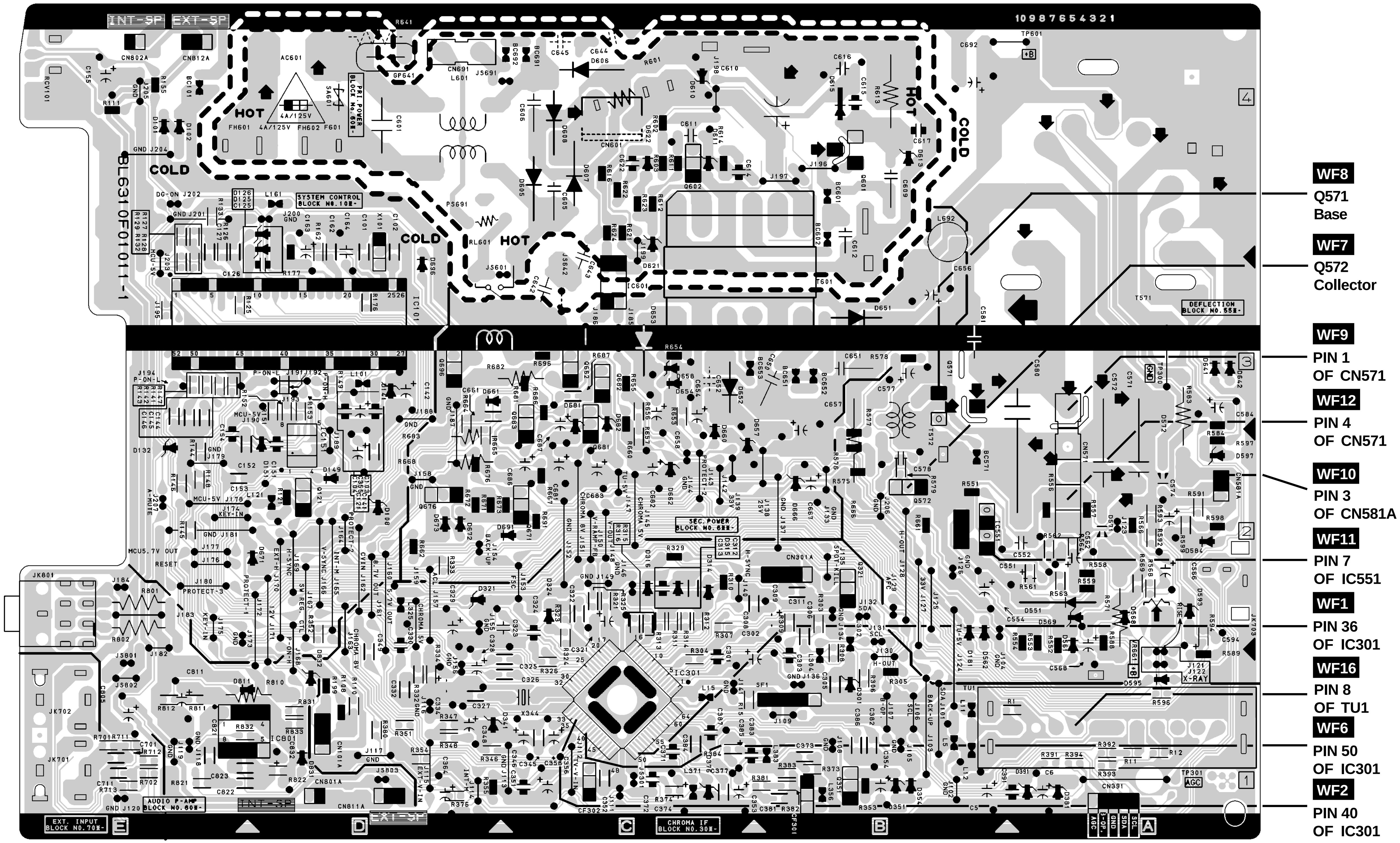
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

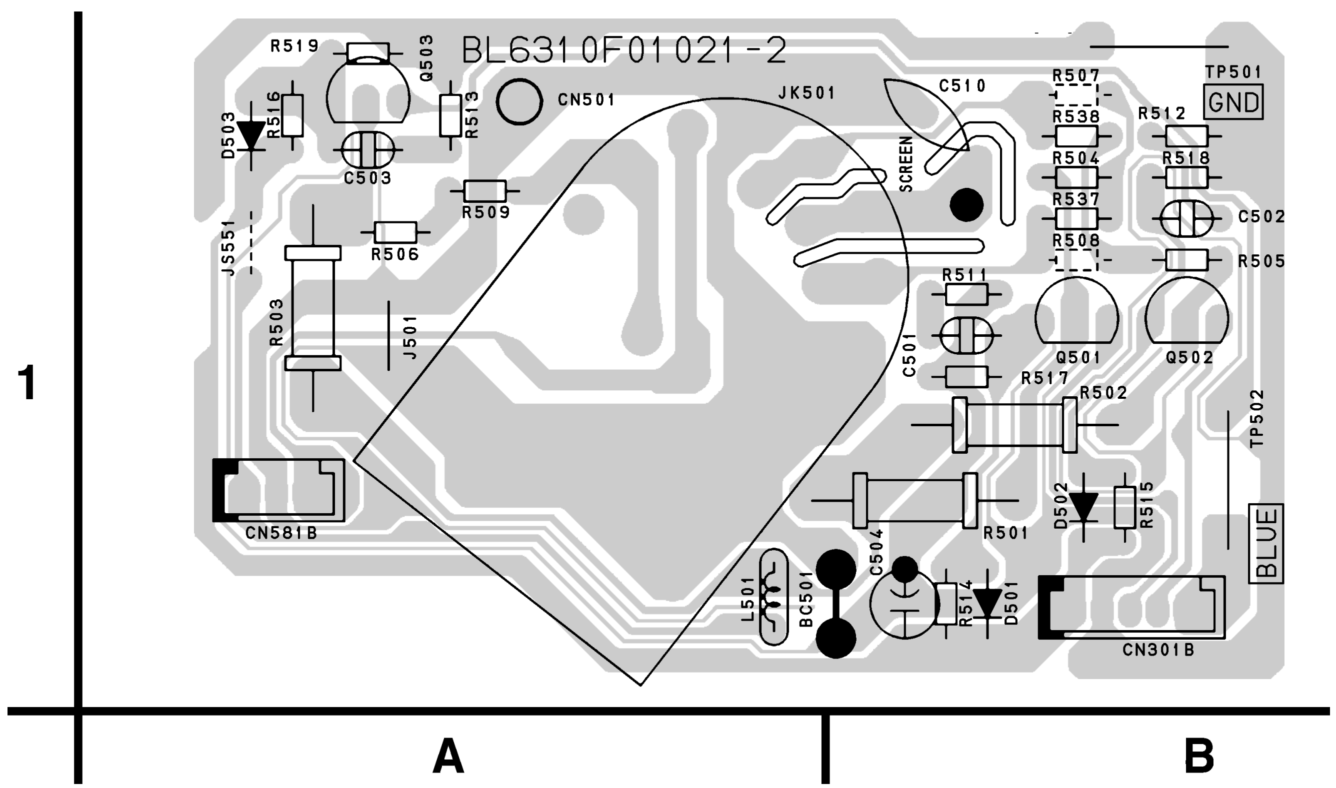


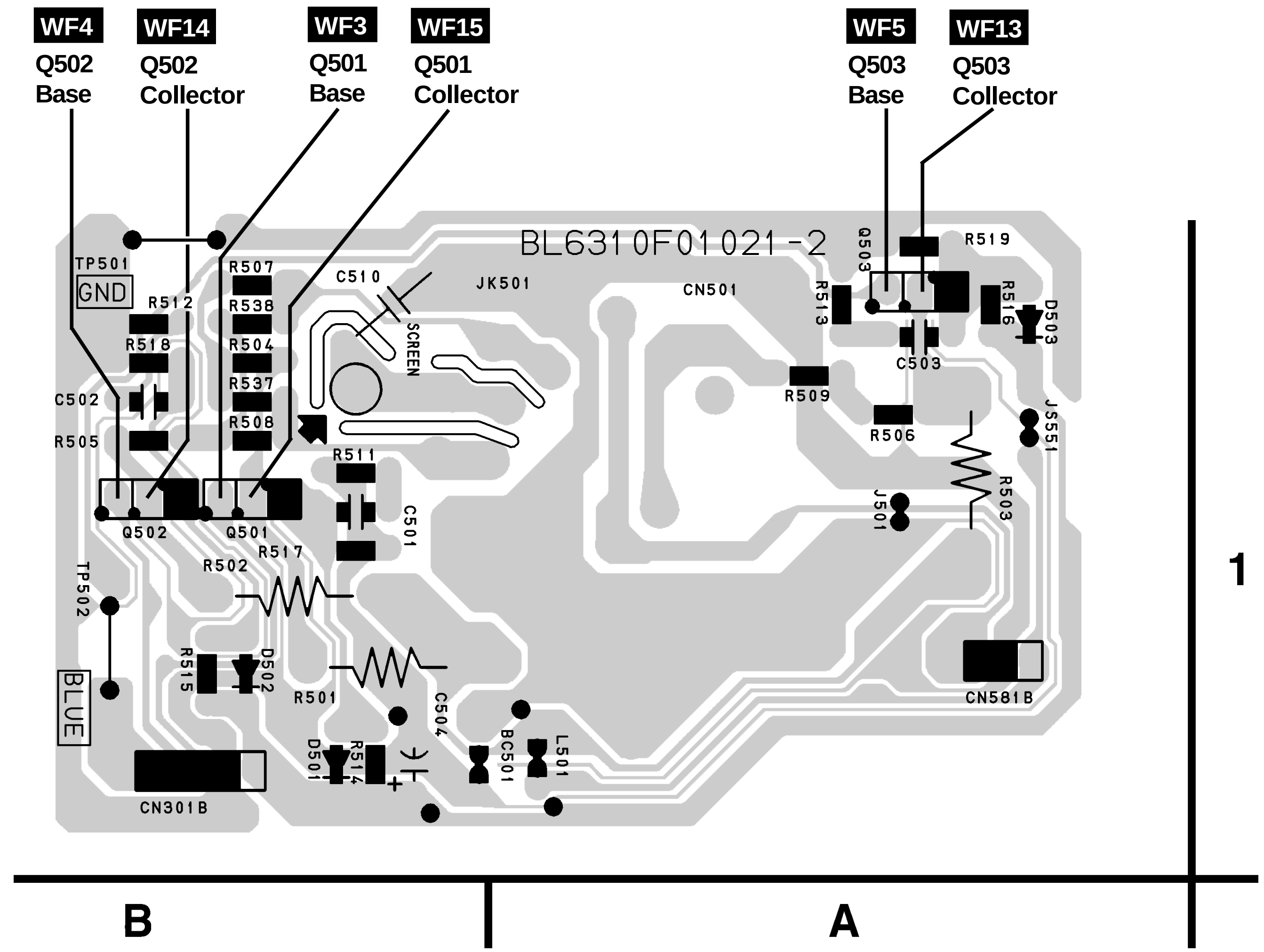
CRT CBA Top View

CRT CBA Bottom View

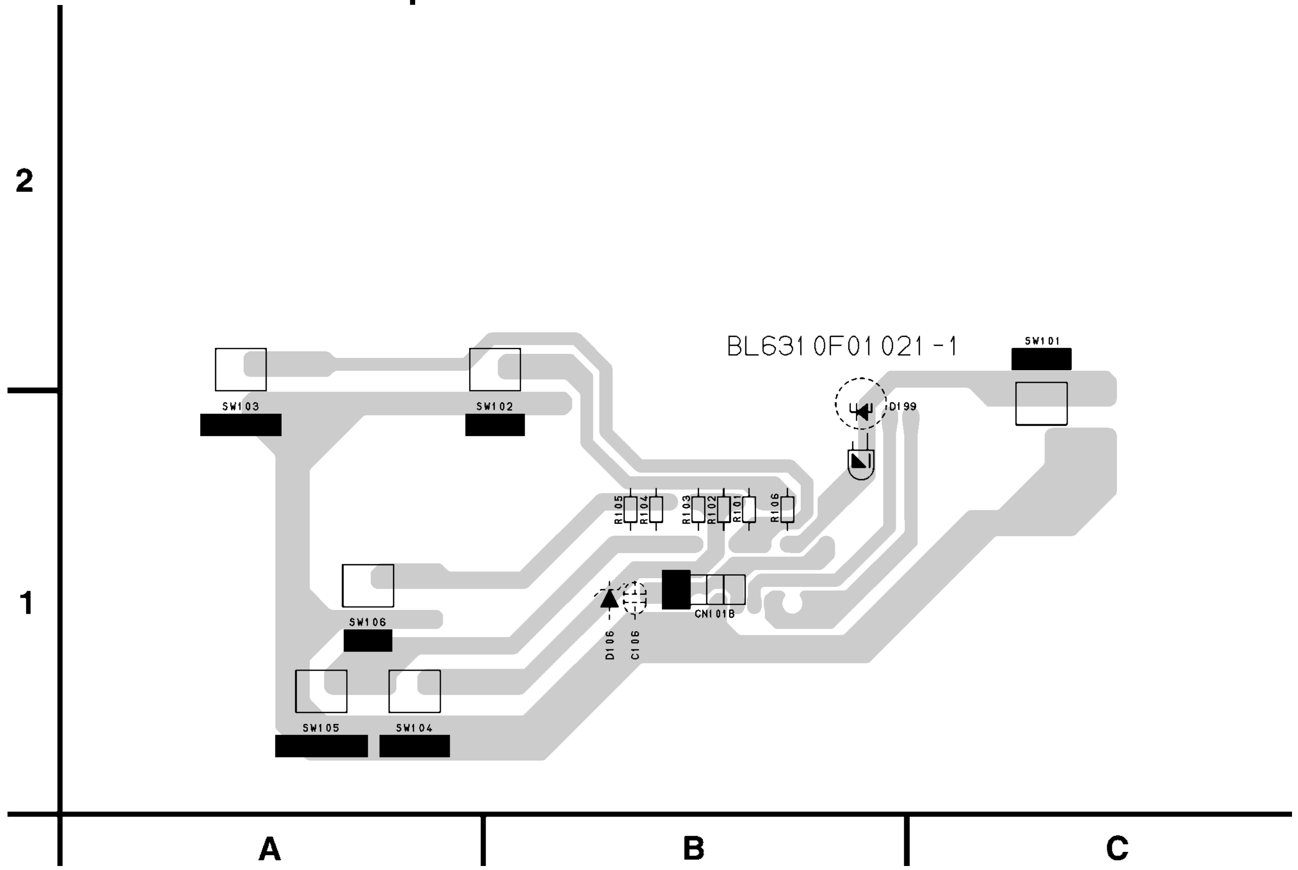
CRT CBA

Ref No.	Position
TRANSISTORS	
Q501	B-1
Q502	B-1
Q503	A-1
CONNECTORS	
CN501	A-1
CN301B	B-1
CN581B	A-1
TEST POINTS	
TP501	B-1
TP502	B-1

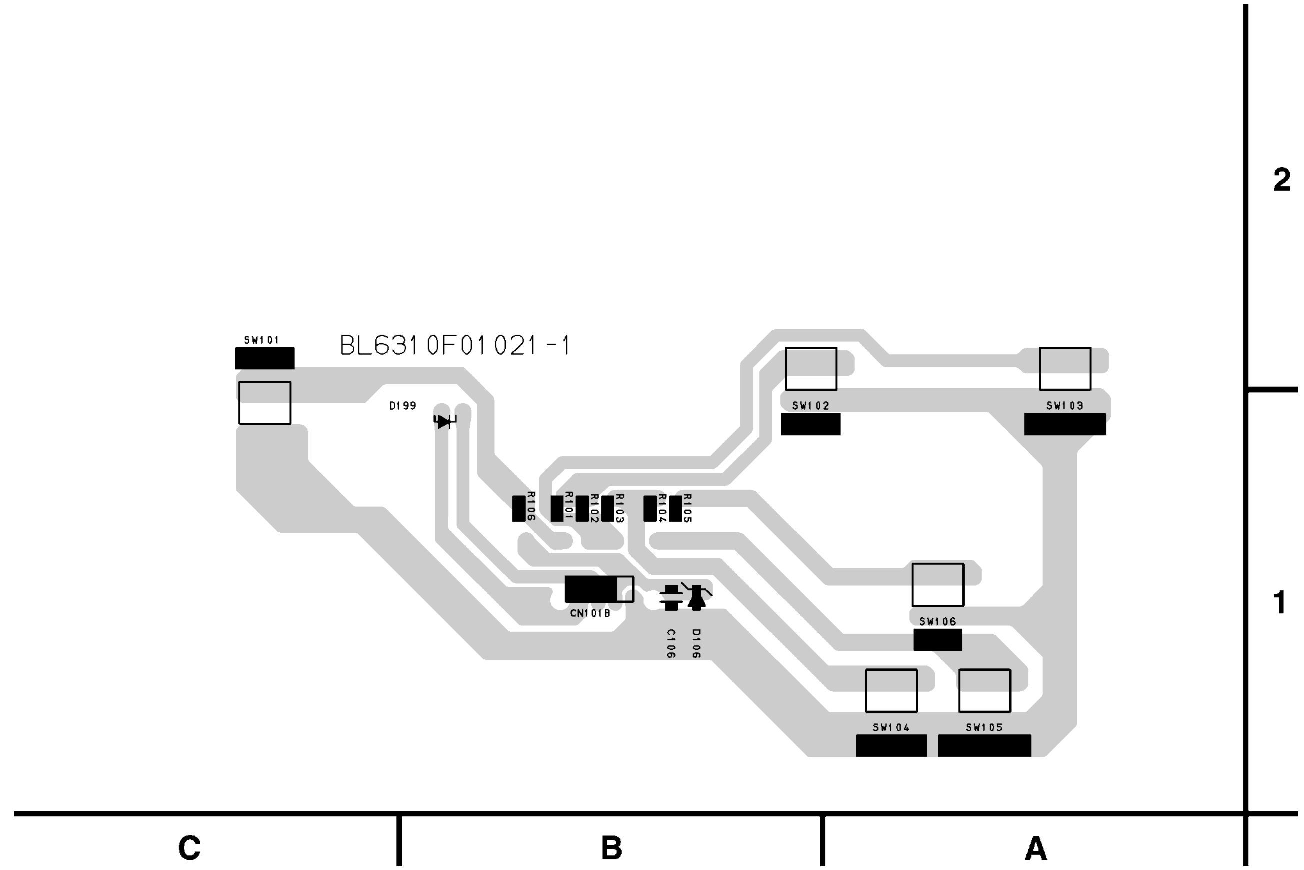




FUNCTION CBA Top View

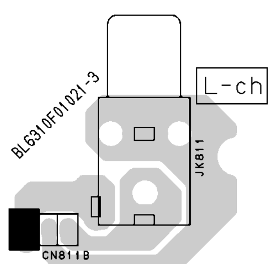


FUNCTION CBA Bottom View

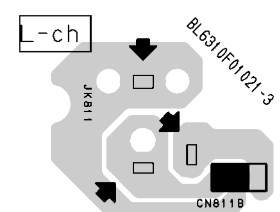


BL6310F01021-1

JACK-A CBA Top View

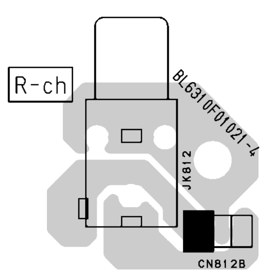


JACK-A CBA Bottom View

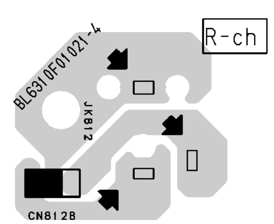


BL6310F01021-3

JACK-B CBA Top View



JACK-B CBA Bottom View



BL6310F01021-4

2

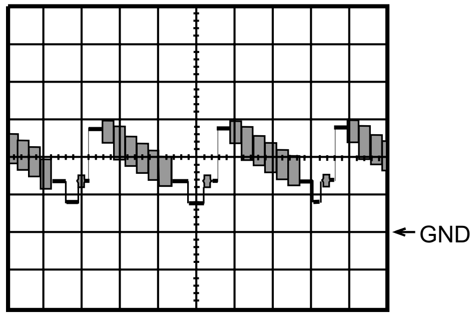
1

A B

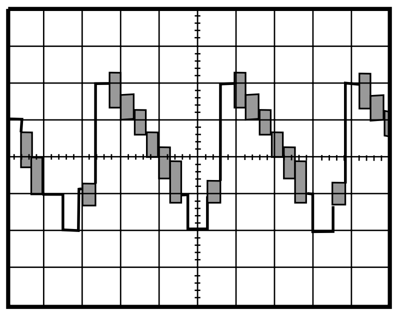
WAVEFORMS

Input: NTSC Color Bar Signal (with 1kHz Audio Signal)
INITIAL POSITION: Unplug unit from AC outlet for at least 5 minutes. reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)

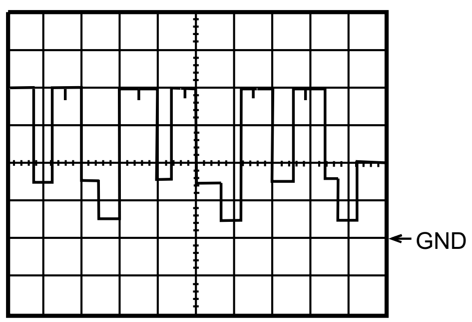
WF1 ~ WF16 = Waveforms to be observed at Waveform check points. (Shown in Schematic Diagram.)



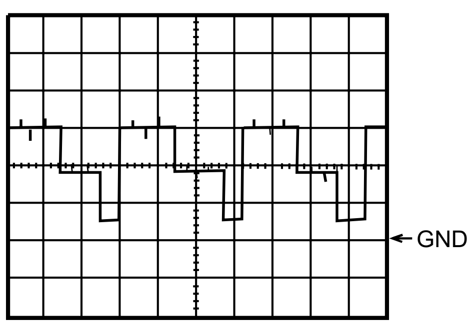
WF1 1DIV: 0.5V 20µsec
IC 301 Pin 36



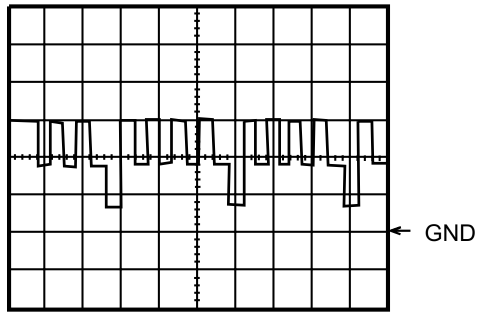
WF2 1DIV: 0.5V 20µsec
IC 301 Pin 40



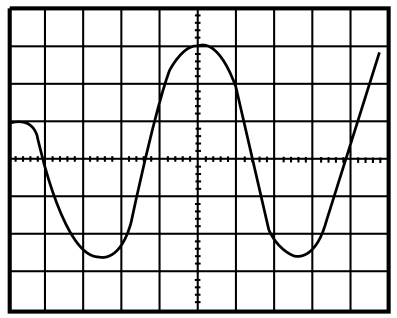
WF3 1DIV: 2V 20µsec
Q501 Base



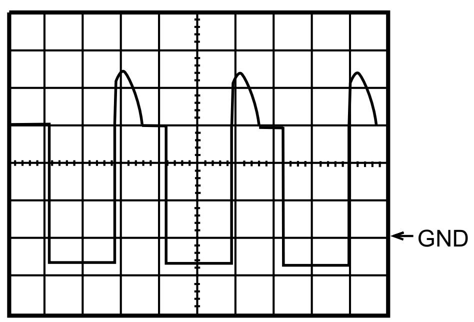
WF4 1DIV: 2V 20µsec
Q 502 Base



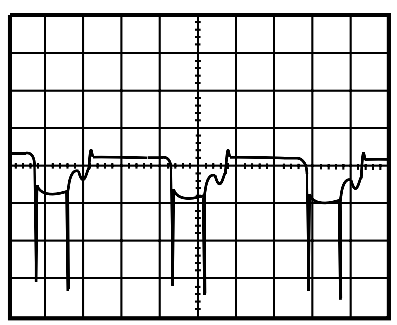
WF5 1DIV: 2V 20µsec
Q 503 Base



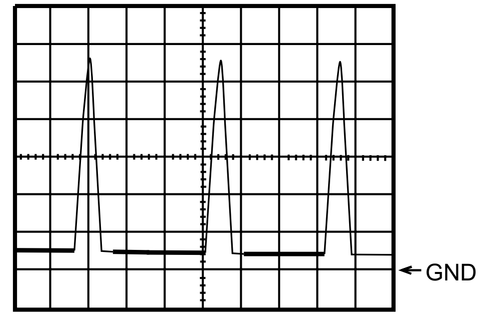
WF6 1DIV: 0.2V 20msec
IC 301 Pin 50



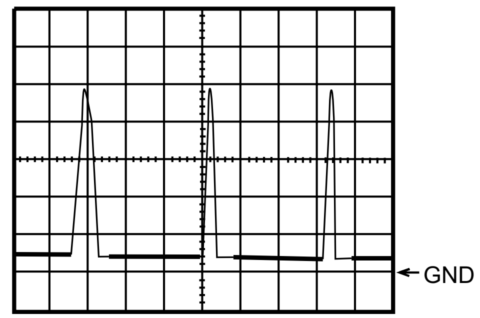
WF7 1DIV: 10V 20µsec
Q 572 Collector



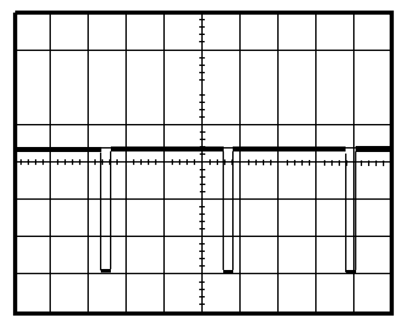
WF8 1DIV: 5V 20µsec
Q 571 Base



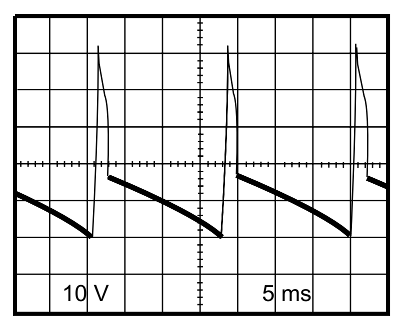
WF9 1DIV: 200V 20µsec
CN 571 Pin 1



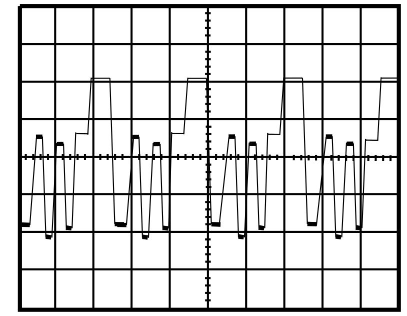
WF10 1DIV: 5V 20µsec
CN581A Pin 3



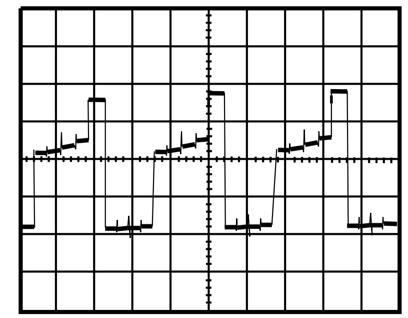
WF11 1DIV: 2V 5msec
IC 551 Pin 7



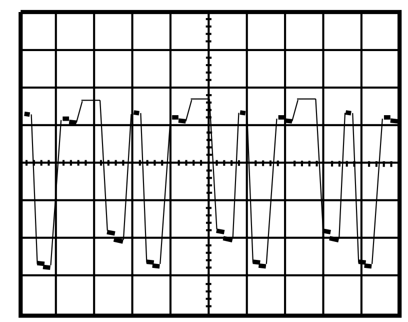
WF12 1DIV: 10V 5msec
CN 571 Pin 4



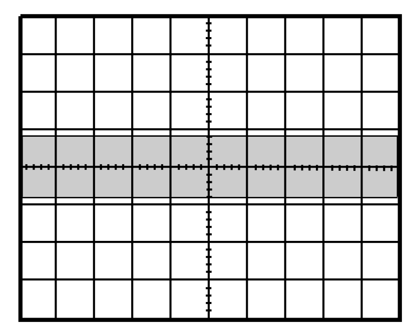
WF13 1DIV: 20V 20µsec
Q503 Collector



WF14 1DIV: 20V 20µsec
Q 502 Collector

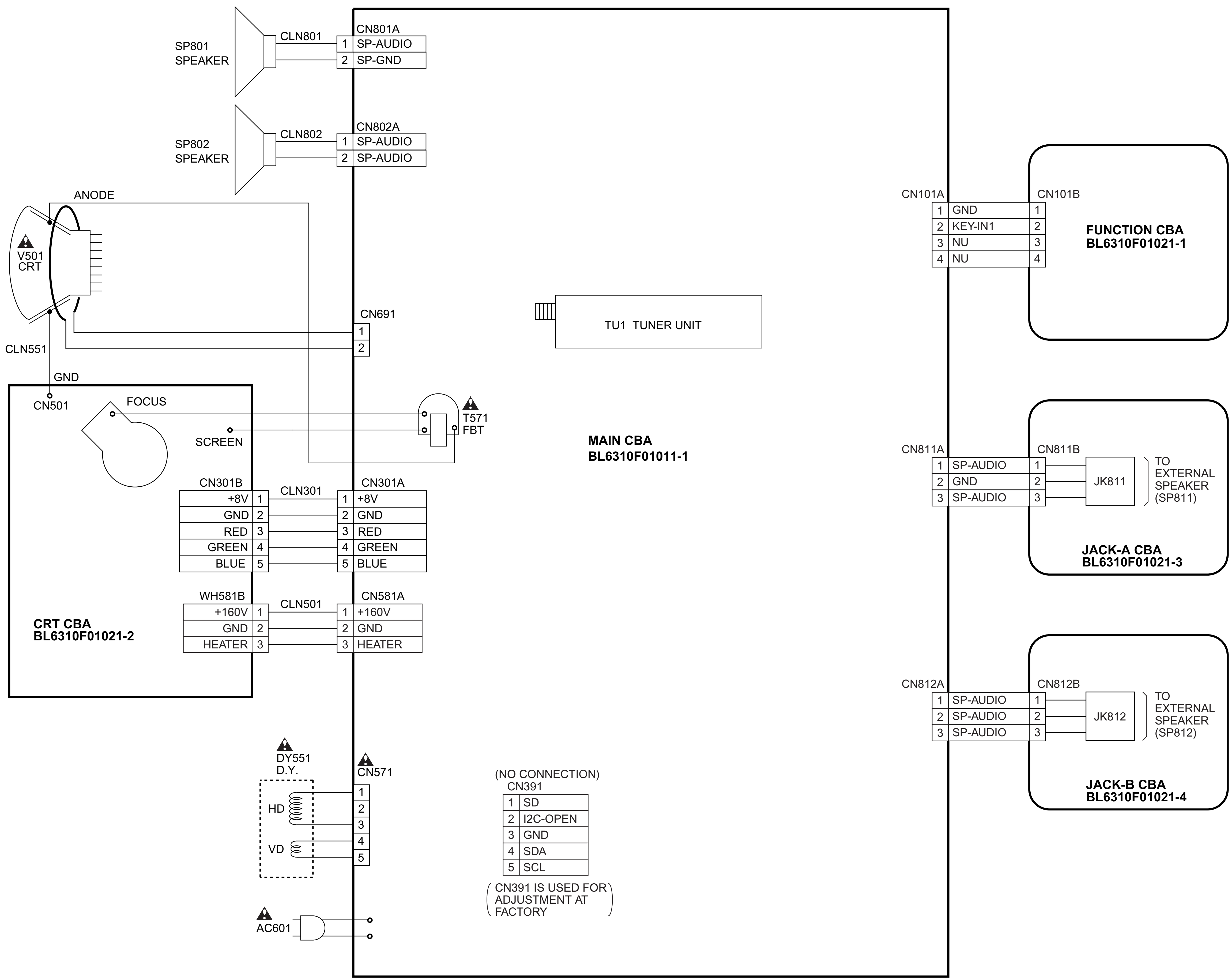


WF15 1DIV: 20V 20µsec
Q 501 Collector



WF16 1DIV: 0.2V 20µsec
TU 1 Pin 8

WIRING DIAGRAM



IC PIN FUNCTIONS

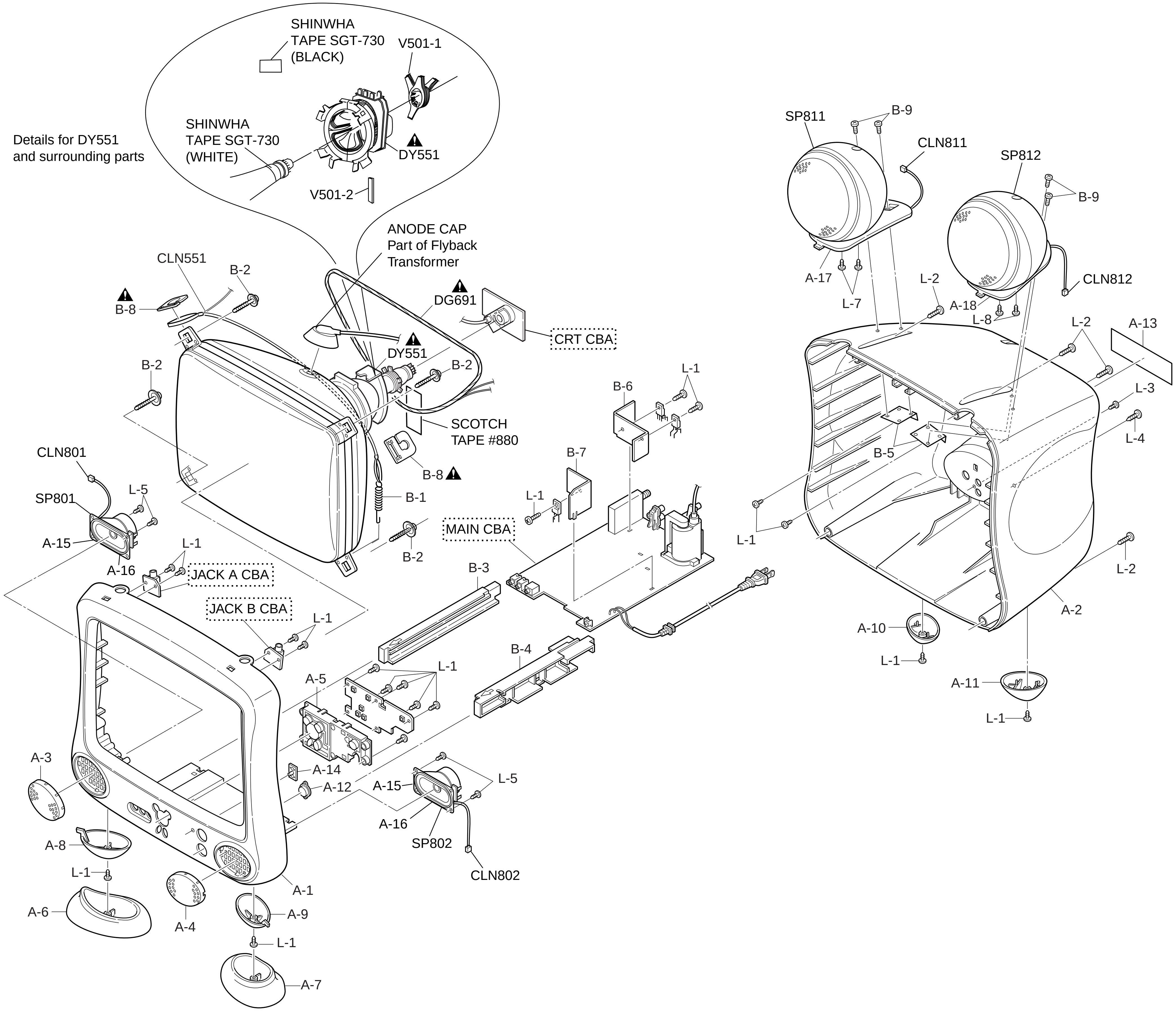
IC101(TV Micro Computer)

Pin No.	Signal Name	Function
1	H-SYNC	H-SYNC Input
2	V-SYNC	V-SYNC Input
3	N.U.	Not Used
4	N.U.	Not Used
5	SD	Detection SD Signal
6	PROTECT-3	Power Supply Protection
7	PROTECT-2	Power Supply Protection
8	PROTECT-1	Power Supply Protection
9	KEY-IN 1	Key Input 1 (Main)
10	N.U.	Not Used
11	N.U.	Not Used
12	EXT-H	EXT-H
13	N.U.	Not Used
14	N.U.	Not Used
15	RCV-IN	Input For Remote Control
16	N.U.	Not Used
17	N.U.	Not Used
18	VCC	AL+5V
19	HLF	Filter for CCD
20	N.U.	Not Used
21	V-HOLD	V-HOLD
22	CVIN	Input for Video Signal
23	CNVSS	GND
24	X-IN	Main Clock Input
25	X-OUT	Main Clock Output
26	VSS	GND
27	VCC	AL+5V
28	OSD1	OSD1
29	OSD2	OSD2
30	RESET	RESET
31	N.U.	Not Used
32	SPOT-KILL	Counter-measure for Spot
33	N.U.	Not Used
34	N.U.	Not Used
35	P-ON-H	Output for P-ON-H
36	N.U.	Not Used

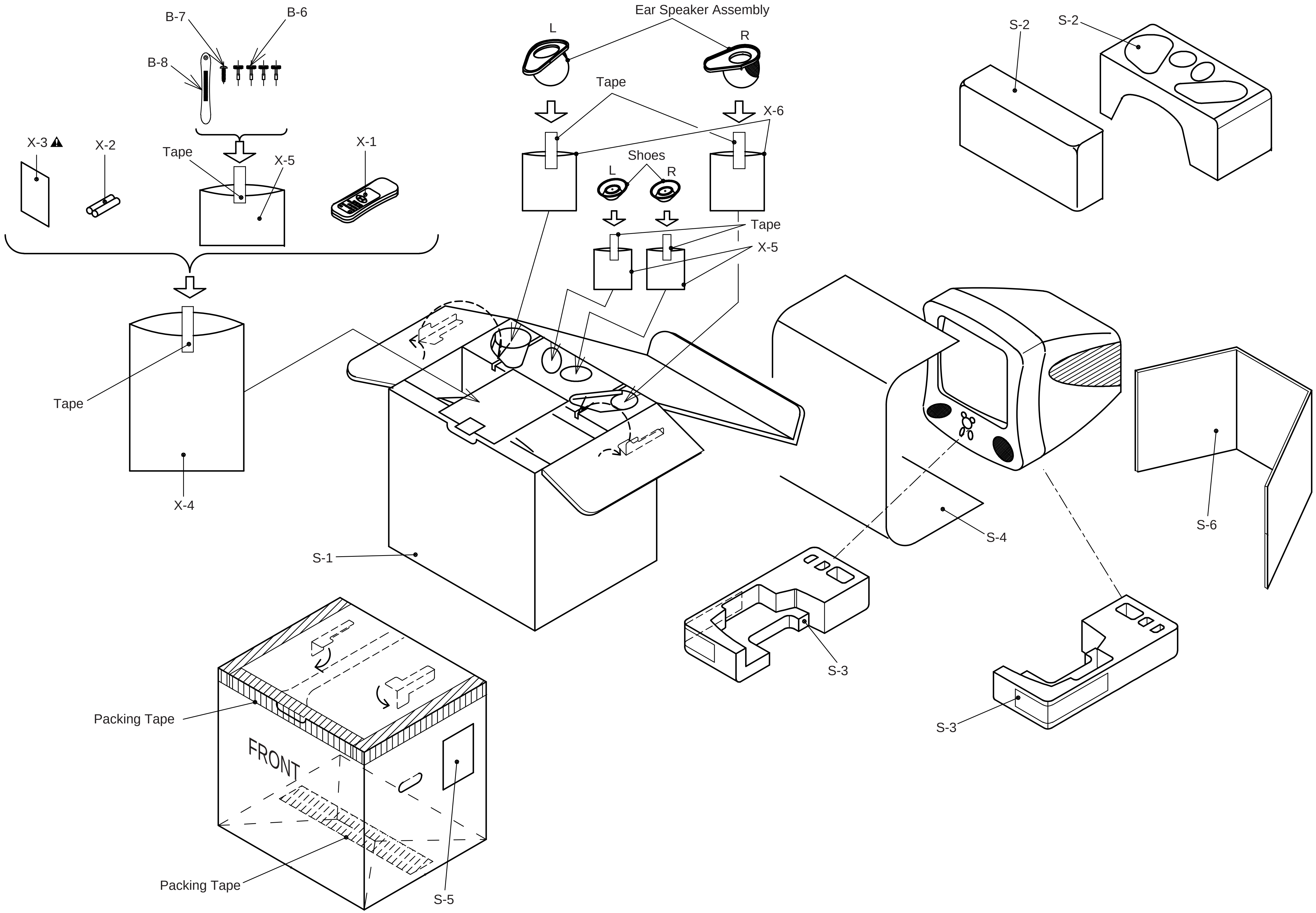
Pin No.	Signal Name	Function
37	SDA	I2C-BUS Controller Interface (Data)
38	I2C OPEN	White Balance Adjustment Judgement
39	SCL	I2C-BUS Controller Interface (Clock)
40	N.U.	Not Used
41	N.U.	Not Used
42	N.U.	Not Used
43	N.U.	Not Used
44	A-MUTE	Audio Mute
45	N.U.	Not Used
46	N.U.	Not Used
47	N.U.	Not Used
48	N.U.	Not Used
49	OSD-BLK	Output for Picture Cut off
50	OSD-B	Blue Output
51	OSD-G	Green Output
52	OSD-R	Red Output

EXPLODED VIEWS

Cabinet



Packing


B-7
B-6
B-8
Ear Speaker Assembly
L
R
S-2
S-2
Tape
X-6
X-3
X-2
Tape
X-5
X-1
Shoes
L
R
Tape
X-5
Tape
X-4
S-4
S-6
S-1
S-3
S-3
Packing Tape
FRONT
Packing Tape
S-5

		2003/1/21	
		DT1300-C/P/A (L6310UL/11UM/12UN)	
	A	DT1300-C (L6310UL)	
	B	DT1300-P (L6311UM)	
	C	DT1300-A (L6312UN)	
Ref No.	Mark	Description	Parts No.
MECHANICAL PARTS LIST			
A-1	A	FRONT CABINET L6310UL	0EM000759
A-1	B	FRONT CABINET L6311UM	0EM101284
A-1	C	FRONT CABINET L6312UN	0EM101286
A-2	A	REAR CABINET L6310UL	0EM000760
A-2	B	REAR CABINET L6311UM	0EM101285
A-2	C	REAR CABINET L6312UN	0EM101287
A-3	A,C	SPEAKER GRILL(L) L6310UL	0EM201691
A-3	B	SPEAKER GRILL(L) L6311UM	0EM407970
A-4	A,C	SPEAKER GRILL(R) L6310UL	0EM201692
A-4	B	SPEAKER GRILL(R) L6311UM	0EM407971
A-5	A	KEY FRAME L6310UL	0EM101279
A-5	B	KEY FRAME L6311UM	0EM407972
A-5	C	KEY FRAME L6312UN	0EM407985
A-6	A	SHOES(L) L6310UL	0EM201693
A-6	B	SHOES(L) L6311UM	0EM407973
A-6	C	SHOES(L) L6312UN	0EM407986
A-7	A	SHOES(R) L6310UL	0EM201694
A-7	B	SHOES(R) L6311UM	0EM407974
A-7	C	SHOES(R) L6312UN	0EM407987
A-8	A	FOOT FRONT(L) L6310UL	0EM301795
A-8	B	FOOT FRONT(L) L6311UM	0EM407975
A-8	C	FOOT FRONT(L) L6312UN	0EM407988
A-9	A	FOOT FRONT(R) L6310UL	0EM301796
A-9	B	FOOT FRONT(R) L6311UM	0EM407976
A-9	C	FOOT FRONT(R) L6312UN	0EM407989
A-10	A	FOOT REAR(L) L6310UL	0EM301797
A-10	B	FOOT REAR(L) L6311UM	0EM407977
A-10	C	FOOT REAR(L) L6312UN	0EM407990
A-11	A	FOOT REAR(R) L6310UL	0EM301798
A-11	B	FOOT REAR(R) L6311UM	0EM407978
A-11	C	FOOT REAR(R) L6312UN	0EM407991
A-12		SENSOR LENS L6310UL	0EM301799
A-13	A	RATING LABEL L6310UL	----------
A-13	B	RATING LABEL L6311UM	----------
A-13	C	RATING LABEL L6312UN	----------
A-14	A,C	EAR SPEAKER GRILL(L) L6310UL	0EM000761
A-14	B	EAR SPEAKER GRILL(L) L6311UM	0EM301814
A-15	A,C	EAR SPEAKER GRILL(R) L6310UL	0EM000762
A-15	B	EAR SPEAKER GRILL(R) L6311UM	0EM301815
A-16!	A	EAR SPEAKER RING L6310UL	0EM301794
A-16!	B	EAR SPEAKER RING L6311UM	0EM407969
A-16!	C	EAR SPEAKER RING L6312UN	0EM407982
A-17	A,C	EAR SPEAKER REAR(L) L6310UL	0EM101278
A-17	B	EAR SPEAKER REAR(L) L6311UM	0EM301816
A-18	A,C	EAR SPEAKER REAR(R) L6310UL	0EM101288
A-18	B	EAR SPEAKER REAR(R) L6311UM	0EM301821
B-1		TENSION SPRING B0080B0:EM40808	26WH006
B-2		CRT MOUNTING SCREW L8810JA	0EM403023

B-3		PCB HOLDER(L) L6310UL	0EM201695
B-4		PCB HOLDER(R) L6310UL	0EM201696
B-5		NUT PLATE L6310UL	0EM301800
B-8!		DEGAUSS HOLDER L7530RA	0EM402001
B-9		DECORATION SCREW L6310UL	0EM407956
CLN551		CRT GND WIRE CRT GND	WX1L7720-001
CLN801		WIRE ASSEMBLY	WX1L9200-001
CLN802		WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L1131-001
CLN811		WIRE ASSEMBLY WX1L6310-006	WX1L6310-006
CLN812		WIRE ASSEMBLY WX1L6310-006	WX1L6310-006
DG691!		DEGAUSSING COIL F-017	LLBH00ZTM017
DG691!		DEGAUSSING COIL AVDG013	LLBH00ZWR017
DG691!		DEGAUSSING COIL	LLBH00ZTZ017
DG691!		DEGAUSSING COIL LLBH00ZTM022	LLBH00ZTM022
L-1		SCREW, P-TIGHT 3X12 BIND HEAD+	GBMP3120
L-2		SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180
L-3		SCREW, P-TIGHT 3X12 BIND HEAD+ BLK	GBKP3120
L-4		SCREW TAPPING M4X14	DBU14140
L-5		P-TIGHT SCREW 3X8 BIND +	GBMP3080
L-7		SCREW, ASSEMBLED 12:M3X14	0EM404416
L-8		SCREW, P-TIGHT 3X12 BIND HEAD+	GBMP3120
S-1	A	CARTON L6310UL	0EM301824
S-1	B	CARTON L6311UM	0EM407981
S-1	C	CARTON L6312UN	0EM407994
S-1		TOP COVER L8500RZ	0EM402939
S-2		STYROFORM TOP L6310UL	0EM000763
S-2		TOP/BOTTOM PAD L6100UZ	0EM406822
S-3		STYROFORM BOTTOM L6310UL	0EM000764
S-3		PARTITION(A) L6100UZ	0EM406820
S-4		SET SHEET L6000UA:700X1200	0EM407141
S-4		PARTITION(B) L6100UZ	0EM406821
S-5	A	SERIAL NO. LABEL L6310UL	----------
S-5	B	SERIAL NO. LABEL L6311UM	----------
S-5	C	SERIAL NO. LABEL L6312UN	----------
S-6		HOLD PAD L6310UL	0EM408005
S-6		SHIPPING CABINET(A) L1400UZ	0EM406296
S-7		SHIPPING CABINET(B) L1400UZ	0EM406297
S-8		PALLET	0VM301902
SP801		SPEAKER S0407F02A	DSD0407XQ001
SP802		SPEAKER S0407F02A	DSD0407XQ001
SP811		SPEAKER S08F04	DSD0408XQ004
SP812		SPEAKER S08F04	DSD0408XQ004
X-1	A	REMOTE CONTROL NE117UD	NE117UD
X-1	B	REMOTE CONTROL NE118UD	NE118UD
X-1	C	REMOTE CONTROL NE119UD	NE119UD
X-2		DRY BATTERY R6P UM3	XB0M451GH001
X-2		DRY BATTERY R6P/2S	XB0M451T0001
X-2		DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002
X-2		DRY BATTERY R6P(AR)2PX	XB0M451HU002
X-2		DRY BATTERY R6P(AR)2P X ICI	XB0M451HU003
X-3!		OWNER'S MANUAL(E)/(S) L6310UL:ENGLISH/SPANISH	0EMN02100
X-4		POLYETHYLENE BAG F8626B5	Z325350
X-5		BAG (C) 50X80X0.05	Z505080
X-6		POLY BAG 100X220X0.03T	Z310220
X-7		POLYETHYLENE BAG F8626B5	Z325350
		CRT TYPE A	
DY551!		DEFLECTION YOKE KDY3GDA82X	LLBY00ZMS011

DY551!		DEFLECTION YOKE LLBY00ZSY005	LLBY00ZSY005
V501!		CRT A34AGT13X	TCRT190CP036
V501-1		C.P.MAGNET JH225-FN-00	XM04000BV003
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE B	
DY551!		DEFLECTION YOKE LLBY00ZSY002	LLBY00ZSY002
DY551!		DEFLECTION YOKE CDY-M1456S	LLBY00ZQS008
DY551!		DEFLECTION YOKE KDY3GC734X	LLBY00ZMS006
DY551!		DEFLECTION YOKE KDY3GCE83X	LLBY00ZMS027
V501!		CRT A34KQW42X	TCRT190SM013
V501-1		C.P.MAGNET JH225-014	XM04000BV009
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE C	
DY551!		DEFLECTION YOKE KDY3GD591X	LLBY00ZMS005
DY551!		DEFLECTION YOKE CDY-M1422F	LLBY00ZQS001
V501!		CRT A34JLL90X(W)	TCRT190QS015
V501-1		C.P.MAGNET JH225-FN-00	XM04000BV003
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE D	
DY551!		DEFLECTION YOKE LLBY00ZSY003	LLBY00ZSY003
DY551!		DEFLECTION YOKE KDY3GD592X	LLBY00ZMS004
DY551!		DEFLECTION YOKE CDY-M1455F	LLBY00ZQS007
V501!		CRT A34LRQ90X(VW)	TCRT190P7003
V501-1		C.P.MAGNET JH225-FN-00	XM04000BV003
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE E	
DY551!		DEFLECTION YOKE LLBY00ZSY002	LLBY00ZSY002
DY551!		DEFLECTION YOKE KDY3GC587X	LLBY00ZMS003
DY551!		DEFLECTION YOKE CDY-M1456S	LLBY00ZQS008
DY551!		DEFLECTION YOKE KDY3GCE83X	LLBY00ZMS027
V501!		CRT A34KPU02XX	TCRT190GS016
V501-1		C.P.MAGNET JH225-FN-00	XM04000BV003
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE F	
DY551!		DEFLECTION YOKE KDY3GCB05X	LLBY00ZMS014
DY551!		DEFLECTION YOKE ST14PWRF01	LLBY00ZSAM01
V501!		CRT A34LEX10X	TCRT190SAM01
V501-1		C.P.MAGNET JH225-FN-00	XM04000BV003
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE G	
DY551!		DEFLECTION YOKE LLBY00ZSY002	LLBY00ZSY002
DY551!		DEFLECTION YOKE KDY3GCB82X	LLBY00ZMS018
DY551!		DEFLECTION YOKE KDY3GCE83X	LLBY00ZMS027
V501!		CRT A34JQQ093X	TCRT190MS010
V501-1		C.P.MAGNET JH225-FN-00	XM04000BV003
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001
		CRT TYPE H	
V501!		CRT A34JXV70X	TCRT190THA02
V501-2		WEDGE FT-00110W	XV10000T4001
V501-2		WEDGE DB25SR	XV10000D9001

ELECTRICAL PARTS LIST			
	A	MMA CBA	0ESA05306
	B	MMA CBA	0ESA05458
	C	MMA CBA	0ESA05460
AC601!		AC CORD LA-2413	WAC0172LW007
B-6		HEAT SINK(PGB) L6000UZ	0EM406788
B-7		HEAT SINK(PFZ) L6100UZ	0EM406786
B-12		CLOTH(65) L7735TR:65X10X0.5T	0EM402149
BC101		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC571		BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC601		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC602		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC651		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC652		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC653		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC691		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC692		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
C5		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C5		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C6		ELECTROLYTIC CAP. 4.7UF/50V M	CE1JMASTL4R7
C6		ELECTROLYTIC CAP. 4.7UF/50V M	CE1JMASDL4R7
C103		CERAMIC CAP.(AX) CH J 12PF/50V	CCA1JJTCH120
C104		CERAMIC CAP.(AX) CH J 12PF/50V	CCA1JJTCH120
C121		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASTL470
C121		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASDL470
C125		CERAMIC CAP.(AX) F Z 0.01UF/25V	CDA1EZT0F103
C126		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C127		CHIP CERAMIC CAP. F Z 0.1UF/25V	CHD1EZ30F104
C141		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C142		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C142		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C151		CERAMIC CAP.(AX) F Z 0.01UF/25V	CDA1EZT0F103
C152		CHIP CERAMIC CAP.(MELF) B K 220PF/50V	CZM1JK30B221
C152		CHIP CERAMIC CAP. CH J 220PF/50V	CHD1JJ3CH221
C153		CHIP CERAMIC CAP.(MELF) B K 220PF/50V	CZM1JK30B221
C153		CHIP CERAMIC CAP. CH J 220PF/50V	CHD1JJ3CH221
C154		CERAMIC CAP.(AX) F Z 0.1UF/50V	CA1J104TU014
C154		CERAMIC CAP.(AX) F Z 0.1UF/50V	CCA1JZT0F104
C155		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASTL470
C155		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASDL470
C162		CHIP CERAMIC CAP.(MELF) B K 220PF/50V	CZM1JK30B221
C162		CHIP CERAMIC CAP. CH J 220PF/50V	CHD1JJ3CH221
C163		ELECTROLYTIC CAP. 0.1UF/50V M	CE1JMASTLR10
C163		ELECTROLYTIC CAP. 0.1UF/50V M	CE1JMASDLR10
C163		ELECTROLYTIC CAP. 0.1UF/50V M	CE1JMASDL0R1
C164		FILM CAP.(P) 0.001UF/50V J	CMA1JJS00102
C164		FILM CAP.(P) 0.001UF/50V J	CA1J102MS029
C301		CERAMIC CAP.(AX) F Z 0.1UF/50V	CA1J104TU014
C301		CERAMIC CAP.(AX) F Z 0.1UF/50V	CCA1JZT0F104
C302		ELECTROLYTIC CAP. 220UF/10V M	CE1AMASTL221
C302		ELECTROLYTIC CAP. 220UF/10V M	CE1AMASDL221
C303		CERAMIC CAP.(AX) B K 0.01UF/50V	CA1J103TU011
C308		CHIP CERAMIC CAP. B K 0.01UF/50V	CHD1JK30B103
C309		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASTL1R0
C309		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL1R0
C309		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL010

C321		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C321		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C322		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C323		FILM CAP. 0.47UF/50V J	122Z317S
C323		TF CAP. 0.47UF/50V J	CT1J474MS045
C324		CERAMIC CAP.(AX) F Z 0.01UF/25V	CDA1EZT0F103
C325		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C326		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C327		CHIP CERAMIC CAP. CH J 47PF/50V	CHD1JJ3CH470
C328		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASTL100
C328		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASDL100
C329		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C329		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C332		CHIP CERAMIC CAP. F Z 0.1UF/25V	CHD1EZ30F104
C334		ELECTROLYTIC CAP. 2.2UF/50V M	CE1JMASTL2R2
C334		ELECTROLYTIC CAP. 2.2UF/50V M	CE1JMASDL2R2
C345		CHIP CERAMIC CAP. B K 0.015UF/50V	CHD1JK30B153
C346		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASTL1R0
C346		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL1R0
C346		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL010
C348		ELECTROLYTIC CAP. 0.1UF/50V M	CE1JMASTLR10
C348		ELECTROLYTIC CAP. 0.1UF/50V M	CE1JMASDLR10
C348		ELECTROLYTIC CAP. 0.1UF/50V M	CE1JMASDL0R1
C349		CHIP CERAMIC CAP. F Z 0.1UF/25V	CHD1EZ30F104
C352		CHIP CERAMIC CAP. B K 0.047UF/50V	CHD1JK30B473
C352		CHIP CERAMIC CAP. B K 0.047UF/25V	CHD1EK30B473
C353		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASTL100
C353		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASDL100
C354		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASTL100
C354		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASDL100
C355		ELECTROLYTIC CAP. 4.7UF/50V M	CE1JMASTL4R7
C355		ELECTROLYTIC CAP. 4.7UF/50V M	CE1JMASDL4R7
C356		ELECTROLYTIC CAP. 470UF/10V M	CE1AMASTL471
C356		ELECTROLYTIC CAP. 470UF/10V M	CE1AMASDL471
C358		ELECTROLYTIC CAP. 0.47UF/50V M	CE1JMASTLR47
C358		ELECTROLYTIC CAP. 0.47UF/50V M	CE1JMASDLR47
C364		ELECTROLYTIC CAP. 2.2UF/50V M	CE1JMASTL2R2
C364		ELECTROLYTIC CAP. 2.2UF/50V M	CE1JMASDL2R2
C371		CERAMIC CAP.(AX) SL J 47PF/50V	CCA1JJTSL470
C372		CERAMIC CAP.(AX) SL J 47PF/50V	CCA1JJTSL470
C374		ELECTROLYTIC CAP. 2.2UF/50V M LL	CE1JMASLL2R2
C374		ELECTROLYTIC CAP. 2.2UF/50V LL	CE1JMASLH2R2
C377		CERAMIC CAP.(AX) X K 3900PF/16V	CDA1CKT0X392
C381		CHIP CERAMIC CAP. B K 0.01UF/50V	CHD1JK30B103
C382		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C384		CHIP CERAMIC CAP.(MELF) SL J 100PF/50V	CZM1JJ3SL101
C384		CHIP CERAMIC CAP. CH J 100PF/50V	CHD1JJ3CH101
C385		ELECTROLYTIC CAP. 0.47UF/50V M	CE1JMASTLR47
C385		ELECTROLYTIC CAP. 0.47UF/50V M	CE1JMASDLR47
C386		CHIP CERAMIC CAP.(MELF) F Z 0.01UF/16V	CZM1CZ30F103
C387		CERAMIC CAP.(AX) B K 0.047UF/50V	CA1J473TU011
C551		ELECTROLYTIC CAP. 47UF/35V M	CE1GMASTL470
C551		ELECTROLYTIC CAP. 47UF/35V M	CE1GMASDL470
C552		FILM CAP.(P) 0.1UF/50V J	CMA1JJS00104
C552		FILM CAP.(P) 0.1UF/50V J	CA1J104MS029
C554		ELECTROLYTIC CAP. 100UF/35V M	CE1GMASTL101
C554		ELECTROLYTIC CAP. 100UF/35V M	CE1GMASDL101

C562		ELECTROLYTIC CAP. 1UF/50V M LL	CE1JMASLL1R0
C562		ELECTROLYTIC CAP. 1UF/50V LL	CE1JMASLH1R0
C566		ELECTROLYTIC CAP. 1000UF/25V M	CE1EMZNTL102
C566		ELECTROLYTIC CAP. 1000UF/25V M	CE1EMZPDL102
C566		ELECTROLYTIC CAP. 1000UF/25V M	CE1EMZADL102
C568		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASTL100
C568		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASDL100
C571!		PP CAP. 0.33UF/250V J	CT2E334MS041
C571!		P.P. CAP 0.33UF/200V J	CA2D334VC012
C571!		METALLIZED FILM CAP. 0.33UF/200V J	CT2D334F7001
C574		ELECTROLYTIC CAP. 4.7UF/250V M	CE2EMASDL4R7
C577		ELECTROLYTIC CAP. 47UF/35V M	CE1GMASTL470
C577		ELECTROLYTIC CAP. 47UF/35V M	CE1GMASDL470
C578		FILM CAP.(P) 0.01UF/50V J	CMA1JJS00103
C578		FILM CAP.(P) 0.01UF/50V J	CA1J103MS029
C580!		PP CAP. 0.0082UF/1.6KV J	CT3C822MS039
C580!		PP CAP. 0.0082UF/1.6KV J	CBH3CJQ00822
C580!		P.P. CAP 0.0082UF/1.6K J	CA3C822VC011
C580!		METALLIZED FILM CAP. 0.0082UF/1.6KV J	CT3C822F7002
C584!		ELECTROLYTIC CAP. 1UF/160V M	CE2CMASTL1R0
C584!		ELECTROLYTIC CAP. 1UF/160V M	CE2CMASDL1R0
C594!		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASTL100
C594!		ELECTROLYTIC CAP. 10UF/50V M	CE1JMASDL100
C601!		METALLIZED FILM CAP. 0.1UF/250V	CT2E104MS037
C601!		FILM CAP.(MP) 0.1UF/250V K	CT2E104DC011
C601!		METALLIZED FILM CAP. 0.1UF/275V K	CT2E104HJE06
C605		CERAMIC CAP. F Z 0.01UF/500V	CCD2JZP0F103
C605		CERAMIC CAP. 0.01UF/AC250V	CCD2EZA0F103
C606		CERAMIC CAP. F Z 0.01UF/500V	CCD2JZP0F103
C606		CERAMIC CAP. 0.01UF/AC250V	CCD2EZA0F103
C609		CERAMIC CAP. B K 1000PF/2KV	CCD3DKD0B102
C609		CERAMIC CAP. B K 1000PF/2KV	CCD3DKP0B102
C609		CERAMIC CAP. B K 1000PF/2KV	CA3D102MR030
C610!		ALMINIUM ELECTROLYTIC CAP150UF/200V	CA2D151NC088
C610!		ELECTROLYTIC CAPACIT0R 150UF/200V	CA2D151S6012
C611		FILM CAP.(P) 0.068UF/50V J	CMA1JJS00683
C611		FILM CAP.(P) 0.068UF/50V J	CA1J683MS029
C612		CERAMIC CAP. LB 330PF/2KV	CA3D331KG004
C612		CERAMIC CAP. BN 330PF/2KV	CCD3DKA0B331
C612		CERAMIC CAP. 330PF/2KV	CA3D331PAN04
C614		CERAMIC CAP.(AX) B K 1000PF/50V	CCA1JKT0B102
C616		FILM CAP.(P) 0.039UF/50V J	CMA1JJS00393
C616		FILM CAP.(P) 0.039UF/50V J	CA1J393MS029
C617		CERAMIC CAP.(AX) B K 330PF/50V	CCA1JKT0B331
If C642 is 0.01UF, then C643 is 0.01UF.			
C642!		SAFETY CAP. 10000PF/250V	CCG2EMA0F103
C642!		SAFETY CAP. F M 0.01UF/250V	CCG2EMP0F103
C642!		CERAMIC CAP. 0.01UF F CS	CCG2HMN0F103
C643!		SAFETY CAP. 10000PF/250V	CCG2EMA0F103
C643!		SAFETY CAP. F M 0.01UF/250V	CCG2EMP0F103
C643!		CERAMIC CAP. 0.01UF F CS	CCG2HMN0F103
If C643 is 4700PF, then JS642 (PCB JUMPER) is used.			
C643!		SAFETY CAP. 4700PF/250V KX	CA2E472MR050
JS642		PCB JUMPER D0.6-P7.5	JW7.5T
C650		CERAMIC CAP. LB 220PF/2KV	CA3D221KG004
C650		CERAMIC CAP. BN J 220PF/2KV	CCD3DKA0B221
C650		CERAMIC CAP. 220PF/2KV	CA3D221PAN04

C654		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASTL1R0
C654		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL1R0
C654		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL010
C656!		ELECTROLYTIC CAP. 100UF/160V M	CE2CMZPTL101
C656!		ELECTROLYTIC CAP. 100UF/160V M	CE2CMZNDL101
C657!		ELECTROLYTIC CAP. 1000UF/35V M	CE1GMZNTL102
C657!		ELECTROLYTIC CAP. 1000UF/35V M	CE1GMZNDL102
C657!		ELECTROLYTIC CAP. 1000UF/35V M	CE1GMZADL102
C658!		ELECTROLYTIC CAP. 1000UF/16V M(VR/HC)	CE1CMZNTL102
C658!		ELECTROLYTIC CAP. 1000UF/16V M	CE1CMZPDL102
C658!		ELECTROLYTIC CAP. 1000UF/16V M	CE1CMZADL102
C667		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASTL1R0
C667		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL1R0
C667		ELECTROLYTIC CAP. 1UF/50V M	CE1JMASDL010
C681		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C681		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C682		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C682		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C683		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C683		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C686		ELECTROLYTIC CAP. 33UF/16V M	CE1CMASTL330
C686		ELECTROLYTIC CAP. 33UF/16V M	CE1CMASDL330
C687		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASTL101
C687		ELECTROLYTIC CAP. 100UF/10V M	CE1AMASDL101
C692		ELECTROLYTIC CAP. 47UF/160V M	CE2CMZPTL470
C692		ELECTROLYTIC CAP. 47UF/160V M W/F	CE2CMZNDL470
C701		CHIP CERAMIC CAP.(MELF) SL J 100PF/50V	CZM1JJ3SL101
C701		CHIP CERAMIC CAP. CH J 100PF/50V	CHD1JJ3CH101
C805		ELECTROLYTIC CAP. 220UF/16V M	CE1CMASTL221
C805		ELECTROLYTIC CAP. 220UF/16V M	CE1CMASDL221
C811		ELECTROLYTIC CAP. 470UF/16V M	CE1CMASTL471
C811		ELECTROLYTIC CAP. 470UF/16V M	CE1CMASDL471
C821		CERAMIC CAP.(AX) X K 3900PF/16V	CDA1CKT0X392
C822		CHIP CERAMIC CAP. F Z 0.22UF/16V	CHD1CZ30F224
C823		CHIP CERAMIC CAP. F Z 0.47UF/10V	CHD1AZ30F474
C823		CHIP CERAMIC CAP. F Z 0.47UF/16V	CHD1CZ30F474
CF301		CERAMIC TRAP 4.5MHZ	FBE455PMR003
CF301		CERAMIC TRAP 4.5MHZ	FBE455PMS002
CF302		CERAMIC FILTER SFSRA4M50CF00-B0	FBB455PMR004
CF302		CERAMIC FILTER 4.5MHZ	FBB455PMS001
CN101A		STRAIGHT CONNECTOR BASE 00 8283 0412 00 000	J383C04UG002
CN101A		STRAIGHT PIN HEADER, 4P 173981-4	1770260
CN301A		WIRE ASSEMBLY WX1L6310-001	WX1L6310-001
CN391		CONNECTOR BASE, 5P TUC-P05P-B1	J3TUA05TG001
CN571		CONNECTOR BASE, 5P TV-50P-05-V3	J3TVC05TG002
CN571		CONNECTOR BASE, 5P RTB-1.5-5P	J3RTC05JG001
CN581A		WIRE ASSEMBLY WX1L6310-002	WX1L6310-002
CN691		CONNECTOR BASE, 2P TV-50P-02-V3	J3TVC02TG002
CN691		CONNECTOR BASE, 2P RTB-1.5-2P	J3RTC02JG001
CN801A		STRAIGHT CONNECTOR BASE 00 8283 0212 00 000	J383C02UG002
CN801A		STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN802A		STRAIGHT CONNECTOR BASE 00 8283 0212 00 000	J383C02UG002
CN802A		STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN811A		CONNECTOR BASE STRIGHT	J383C03UG002
CN811A		STRAIGHT PIN HEADER, 3P 173981-3	1770259
CN812A		CONNECTOR BASE STRIGHT	J383C03UG002
CN812A		STRAIGHT PIN HEADER, 3P 173981-3	1770259

D101		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D101		SWITCHING DIODE 1N4148	NDTZ001N4148
D102		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D102		SWITCHING DIODE 1N4148	NDTZ001N4148
D125		ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D125		ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D126		ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D126		ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D132		ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D132		ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D141		ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D141		ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D151		ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D151		ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D181!		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D181!		SWITCHING DIODE 1N4148	NDTZ001N4148
D301		ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D301		ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D314		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D314		SWITCHING DIODE 1N4148	NDTZ001N4148
D315		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D315		SWITCHING DIODE 1N4148	NDTZ001N4148
D316		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D316		SWITCHING DIODE 1N4148	NDTZ001N4148
D324		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D324		SWITCHING DIODE 1N4148	NDTZ001N4148
D351		ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D351		ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS
D354		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D354		SWITCHING DIODE 1N4148	NDTZ001N4148
D376		ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D376		ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS
D551		DIODE 1N5399-B/P	NDLZ001N5399
D551		DIODE 1N5397-B	NDLZ001N5397
D551		RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D568!		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D568!		SWITCHING DIODE 1N4148	NDTZ001N4148
D569!		ZENER DIODE MTZJT-7720B	QDTB00MTZJ20
D569!		ZENER DIODE DZ-20BSBT265	NDTB00DZ20BS
D571		DIODE FR104-B	NDLZ000FR104
D571		RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D571		RECTIFIER DIODE 10ELS2	QDQZ0010ELS2
D572!		RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D572!		RECTIFIER DIODE 10ELS2	QDQZ0010ELS2
D584!		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D584!		SWITCHING DIODE 1N4148	NDTZ001N4148
D593!		ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D593!		ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS
D595		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D595		SWITCHING DIODE 1N4148	NDTZ001N4148
D597		ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D597		ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D605!		DIODE 1N5399-B/P	NDLZ001N5399
D605!		DIODE 1N5397-B	NDLZ001N5397
D605!		RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D606!		DIODE 1N5399-B/P	NDLZ001N5399
D606!		DIODE 1N5397-B	NDLZ001N5397

D606!		RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D607!		DIODE 1N5399-B/P	NDLZ001N5399
D607!		DIODE 1N5397-B	NDLZ001N5397
D607!		RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D608!		DIODE 1N5399-B/P	NDLZ001N5399
D608!		DIODE 1N5397-B	NDLZ001N5397
D608!		RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D611!		ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D611!		ZENER DIODE DZ-15BSBT265	NDTB00DZ15BS
D613!		ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D613!		ZENER DIODE DZ-15BSBT265	NDTB00DZ15BS
D615!		SWITCHING DIODE 1N4148 T-77	QDTZ001N4148
D621		ZENER DIODE DZ-3.0BSBT265	NDTB0DZ3R0BS
D641		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
D642		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D642		SWITCHING DIODE 1N4148	NDTZ001N4148
D651!		FAST RECOVERY DIODE CA201-4	QDWZ00CA2014
D651!		RECOVERY DIODE ERC18-04	QDZZ0ERC1804
D651!		FAST RECOVERY DIODE ERC25-06	QDQZ0ERC2506
D652!		DIODE FR154	NDLZ000FR154
D652!		FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D653!		DIODE FR154	NDLZ000FR154
D653!		FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D654		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D654		SWITCHING DIODE 1N4148	NDTZ001N4148
D657!		DIODE 1ZC36	QDQZ0001ZC36
D657!		ZENER DIODE RD39FB	QDQZ000RD39F
D660		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D660		SWITCHING DIODE 1N4148	NDTZ001N4148
D661		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D661		SWITCHING DIODE 1N4148	NDTZ001N4148
D662!		ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D662!		ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D666!		ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D666!		ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS
D671		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D671		SWITCHING DIODE 1N4148	NDTZ001N4148
D672		PCB JUMPER D0.6-P5.0	JW5.0T
D673		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D673		SWITCHING DIODE 1N4148	NDTZ001N4148
D691!		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D691!		SWITCHING DIODE 1N4148	NDTZ001N4148
D811!		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D811!		SWITCHING DIODE 1N4148	NDTZ001N4148
D831		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D831		SWITCHING DIODE 1N4148	NDTZ001N4148
F601!		FUSE 4A/125V 237 TYPE	PAGJ20CAG402
F601!		FUSE STC4A125V U/CT	PAGE20CW3402
F601!		FUSE 4.00A/125V	PAGG20CNG402
FH601		FUSE HOLDER MSF-015	XH01Z00LY001
FH601		FUSE HOLDER FH-V-03078	XH01Z00DK001
FH602		FUSE HOLDER MSF-015	XH01Z00LY001
FH602		FUSE HOLDER FH-V-03078	XH01Z00DK001
GP641!		GAP. FNR-G3.10D	FAZ000LD6005
IC101!	A	IC M37281MAH-066SP	QSZAA0SMB165
IC101	B	IC M37281MAH-067SP	QSZAA0SMB166
IC101	C	IC M37281MAH-068SP	QSZAA0SMB167

IC151		IC:MEMORY S524C20D21	NSZBA0SSM028
IC151		IC:MEMORY AT24C02N-10SC	NSMMA0SAZ012
IC151		IC(EEPROM) M24C02-MN6	NSMMA0SSS028
IC151		IC:MEMORY BR24C02F-W	QSMBA0SRM003
IC151		IC:MEMORY BR24C02F	QSMMA0SRM003
IC301!		IC:CHROMA/IF 1 CHIP M61206FP-61	QSZAB0RMB011
IC551!		VERTICAL OUTPUT IC LA78040A	QSBBA0SSY003
IC551!		VERTICAL OUTPUT IC AN5522	QSZBA0SMS002
IC601!		PHOTOCOUPLER PS2501-1W	QPEW0PS25011
IC601!		PHOTO COUPLER PS2501-1L	QPEL0PS25011
IC601!		PHOTOCOUPLER LTV-817B-F	NPEB0LTV817F
IC601!		PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC801		AUDIO AMP LA4224	QSZAA0SSY005
J192		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
J195		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
JK701		RCA JACK(YELLOW) MTJ-032-06A-20	JYRL010LY013
JK701		RCA JACK 1P(YELLOW)WITH SWITCH AV1-09S-3	JYRL010RP009
JK702		RCA JACK(WHITE) MTJ-032-06A-22	JYRL010LY015
JK702		RCA JACK 1P(WHITE)WITH SWITCH AV1-09S-4	JYRL010RP010
JK703		RCA JACK AV2-8.4-16	JXRL020RP002
JK801		HEADPHONE JACK MSJ-035-10A B	JYSL020LY002
JS601		PCB JUMPER D0.6-P5.0	JW5.0T
L5		INDUCTOR 22UH-K-5FT	LLARKBSTU220
L5		INDUCTOR 22UH-K	LLARKDQKA220
L-1		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
L-1		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
L11		PCB JUMPER D0.6-P5.0	JW5.0T
L15		INDUCTOR 1.2UH-J-26T	LLAXJATTU1R2
L15		INDUCTOR 1.2UH-K-26T	LLAXKDTKA1R2
L101		INDUCTOR 3.9UH-J-26T	LLAXJATTU3R9
L101		INDUCTOR 3.9UH-K-26T	LLAXKDTKA3R9
L121		INDUCTOR 22UH-K-5FT	LLARKBSTU220
L121		INDUCTOR 22UH-K	LLARKDQKA220
L161		INDUCTOR 22UH-J-26T	LLAXJATTU220
L161		INDUCTOR 22UH-K-26T	LLAXKDTKA220
L302		PCB JUMPER D0.6-P5.0	JW5.0T
L304		PCB JUMPER D0.6-P5.0	JW5.0T
L325		INDUCTOR 100UH-K-5FT	LLARKBSTU101
L325		INDUCTOR 100UH-K	LLARKDQKA101
L356		INDUCTOR 8.2UH-J-26T	LLAXJATTU8R2
L356		INDUCTOR 8.2UH-K-26T	LLAXKDTKA8R2
L371		INDUCTOR 15UH-J-26T	LLAXJATTU150
L371		INDUCTOR 15UH-K-26T	LLAXKDTKA150
L383		INDUCTOR 2.2UH-J-26T	LLAXJATTU2R2
L383		INDUCTOR 2.2UH-K-26T	LLAXKDTKA2R2
L601!		LINE FILTER TLF12UA302W1R0	LLBG00ZTU025
L601!		LINE FILTER 5.0MH 6Y075	LLBG00ZKT004
L601!		LINE FILTER LF005	LLBG00ZLH001
L601!		LINE FILTER UU10.5-A	LLBG00ZY2008
L601!		LINE FILTER SA-91213B	LLBG00ZSA002
L601!		LINE FILTER TLF14CB3321R0	LLBG00ZTU012
L601!		LINE FILTER 6.35MH UU10-002	LLBG00ZKV001
L692		CHOKE COIL 47UH-K	LLBD00PKV007
L692		POT COIL 47UH K	LLBD**DMM001
PS691!		THERMISTOR ZPB45BL7R0A	QNZZ45BL7R0A
Q121		TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q121		TRANSISTOR 2SC2785(H)	QQSH02SC2785

Q121		TRANSISTOR 2SC2785(J)	QQSJ02SC2785
Q121		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q121		TRANSISTOR KTC3198(GR)	NQS40KTC3198
Q121		TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q321		TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q321		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q321		TRANSISTOR 2SC2785(J)	QQSJ02SC2785
Q321		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q321		TRANSISTOR KTC3198(GR)	NQS40KTC3198
Q321		TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q351		TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q351		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q351		TRANSISTOR 2SC2785(J)	QQSJ02SC2785
Q351		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q351		TRANSISTOR KTC3198(GR)	NQS40KTC3198
Q351		TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q571!		TRANSISTOR TT2138LS-YB11	QQZZ00TT2138
Q571!		TRANSISTOR 2SC5884000RF	QQZZ02SC5884
Q572		TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q601!		MOS FET 2SK2662	QF5Z02SK2662
Q601!		FET 2SK3543	QFWZ02SK3543
Q602!		TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q602!		TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q662		TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q662		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q662		TRANSISTOR 2SC2785(J)	QQSJ02SC2785
Q662		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q662		TRANSISTOR KTC3198(GR)	NQS40KTC3198
Q662		TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q671!		TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q671!		TRANSISTOR KTA1267(GR)	NQS10KTA1267
Q671!		TRANSISTOR KTA1266(GR)	NQS40KTA1266
Q671!		TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q676		RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q676		RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q681!		TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q681!		TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q681!		TRANSISTOR KTC3203(Y)	NQSY0KTC3203
Q682!		TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q682!		TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q682!		TRANSISTOR KTC3203(Y)	NQSY0KTC3203
Q683!		TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q683!		TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q683!		TRANSISTOR KTC3203(Y)	NQSY0KTC3203
R11		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R12		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R108		PCB JUMPER D0.6-P5.0	JW5.0T
R110		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R111		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R111		CARBON RES. 1/6W J 1K OHM	RCX6JATZ0102
R121		CARBON RES. 1/4W J 100 OHM	RCX4JATZ0101
R121		CARBON RES. 1/6W J 100 OHM	RCX6JATZ0101
R125		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R126		CHIP RES.(1608) 1/10W J 220K OHM	RRXAJR5Z0224
R127		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R128		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R129		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223

R132		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R141		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R142		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R143		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R144		CHIP RES.(1608) 1/10W J 3.9K OHM	RRXAJR5Z0392
R145		CHIP RES.(1608) 1/10W J 3.9K OHM	RRXAJR5Z0392
R146		CHIP RES.(1608) 1/10W J 3.9K OHM	RRXAJR5Z0392
R147		CHIP RES.(1608) 1/10W J 4.7K OHM	RRXAJR5Z0472
R148		CHIP RES.(1608) 1/10W J 3.3K OHM	RRXAJR5Z0332
R149		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R151		CHIP RES.(1608) 1/10W J 4.7K OHM	RRXAJR5Z0472
R152		CHIP RES.(1608) 1/10W J 4.7K OHM	RRXAJR5Z0472
R153		CHIP RES.(1608) 1/10W J 4.7K OHM	RRXAJR5Z0472
R155		CARBON RES. 1/4W J 100 OHM	RCX4JATZ0101
R155		CARBON RES. 1/6W J 100 OHM	RCX6JATZ0101
R162		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R176		CHIP RES.(1608) 1/10W J 270K OHM	RRXAJR5Z0274
R199		PCB JUMPER D0.6-P5.0	JW5.0T
R303		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R304		CHIP RES.(1608) 1/10W J 2.7K OHM	RRXAJR5Z0272
R305		CARBON RES. 1/4W J 10K OHM	RCX4JATZ0103
R306		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R307		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R309		CHIP RES.(1608) 1/10W J 6.8K OHM	RRXAJR5Z0682
R310		CARBON RES. 1/4W J 2.2K OHM	RCX4JATZ0222
R311		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R312		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R313		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R314		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R315		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R316		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R321		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R323		CHIP RES.(1608) 1/10W J 4.7K OHM	RRXAJR5Z0472
R324		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R325		CHIP RES.(1608) 1/10W J 47K OHM	RRXAJR5Z0473
R326		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R329		CARBON RES. 1/4W J 470 OHM	RCX4JATZ0471
R329		CARBON RES. 1/6W J 470 OHM	RCX6JATZ0471
R332		CHIP RES.(1608) 1/10W J 12K OHM	RRXAJR5Z0123
R333		CHIP RES.(1608) 1/10W J 47K OHM	RRXAJR5Z0473
R334		CHIP RES.(1608) 1/10W J 120K OHM	RRXAJR5Z0124
R346		CHIP RES.(1608) 1/10W J 6.8K OHM	RRXAJR5Z0682
R348		CHIP RES.(1608) 1/10W J 470 OHM	RRXAJR5Z0471
R351		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R352		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R353		CARBON RES. 1/4W J 2.2K OHM	RCX4JATZ0222
R355		PCB JUMPER D0.6-P5.0	JW5.0T
R373		CHIP RES.(1608) 1/10W J 56 OHM	RRXAJR5Z0560
R374		CHIP RES.(1608) 1/10W J 15K OHM	RRXAJR5Z0153
R376		CHIP RES.(1608) 1/10W J 470 OHM	RRXAJR5Z0471
R380		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R381		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R382		CHIP RES.(1608) 1/10W J 10M OHM	RRXAJR5Z0106
R383		CHIP RES.(1608) 1/10W J 390 OHM	RRXAJR5Z0391
R384		CHIP RES.(1608) 1/10W J 470 OHM	RRXAJR5Z0471
R391		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R392		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101

R393		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R394		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R551		CARBON RES. 1/4W J 4.7 OHM	RCX4JATZ04R7
R551		CARBON RES. 1/6W J 4.7 OHM	RCX6JATZ04R7
R552!		CARBON RES. 1/4W J 3.9 OHM	RCX4JATZ03R9
R553!		CARBON RES. 1/4W J 1 OHM	RCX4JATZ01R0
R554!		CARBON RES. 1/4W J 1 OHM	RCX4JATZ01R0
R556		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R556		CARBON RES. 1/6W J 1K OHM	RCX6JATZ0102
R557		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R557		CARBON RES. 1/6W J 1K OHM	RCX6JATZ0102
R558		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R559		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R561		CHIP RES.(1608) 1/10W J 470 OHM	RRXAJR5Z0471
R562		CHIP RES.(1608) 1/10W J 8.2K OHM	RRXAJR5Z0822
R563		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R564		CHIP RES.(1608) 1/10W J 56K OHM	RRXAJR5Z0563
R566		CARBON RES. 1/4W J 2.2 OHM	RCX4JATZ02R2
R566		CARBON RES. 1/6W J 2.2 OHM	RCX6JATZ02R2
R569!		CHIP RES.(1608) 1/10W J 6.8K OHM	RRXAJR5Z0682
R571!		METAL OXIDE FILM RES. 2W J 470 OHM	RN02471ZU001
R571!		METAL OXIDE FILM RES. 2W J 470 OHM	RN02471DP004
R575		PCB JUMPER D0.6-P5.0	JW5.0T
R576		CARBON RES. 1/4W J 47 OHM	RCX4JATZ0470
R577		CARBON RES. 1/4W J 47 OHM	RCX4JATZ0470
R578		CARBON RES. 1/4W J 560 OHM	RCX4JATZ0561
R579		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R583!		METAL OXIDE FILM RES. 2W J 1.8 OHM	RN02JZLZ01R8
R583!		METAL FILM RES.(STRAIGHT)2W J 1.8 OHM	RN02JZPZ01R8
R584!		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R584!		CARBON RES. 1/6W J 1K OHM	RCX6JATZ0102
R588!		CARBON RES. 1/4W J 100K OHM	RCX4JATZ0104
R589		CARBON RES. 1/4W J 100K OHM	RCX4JATZ0104
R591!		CHIP RES.(1608) 1/10W J 180K OHM	RRXAJR5Z0184
R592		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R593!		CHIP RES.(1608) 1/10W J 68K OHM	RRXAJR5Z0683
R594		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R596		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R597		CARBON RES. 1/4W J 8.2K OHM	RCX4JATZ0822
R598!		CARBON RES. 1/4W J 47K OHM	RCX4JATZ0473
R599!		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R601!		CEMENT RES. 5W K 1.2 OHM	RW051R2DP005
R601!		CEMENT RESISTOR 5W K 1.2 OHM	RW051R2PG001
R601!		CEMENT RESISTOR 5W J 1.2 OHM	RW051R2Y4001
R601!		CEMENT RES. 3W K 1.2 OHM	RW031R2PG007
R602		CARBON RES. 1/4W J 820K OHM	RCX4JATZ0824
R603		CARBON RES. 1/4W J 820K OHM	RCX4JATZ0824
R611		CARBON RES. 1/4W J 270 OHM	RCX4JATZ0271
R611		CARBON RES. 1/6W J 270 OHM	RCX6JATZ0271
R612		CARBON RES. 1/4W J 270 OHM	RCX4JATZ0271
R612		CARBON RES. 1/6W J 270 OHM	RCX6JATZ0271
R613!		METAL OXIDE FILM RES. 2W J 0.47 OHM	RN02JZLZ0R47
R613!		METAL RES. 2W J 0.47 OHM	RN02JZPZ0R47
R614		CARBON RES. 1/4W J 470 OHM	RCX4JATZ0471
R614		CARBON RES. 1/6W J 470 OHM	RCX6JATZ0471
R616		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
R621		CARBON RES. 1/4W J 1.2K OHM	RCX4JATZ0122

R622		CARBON RES. 1/4W J 150 OHM	RCX4JATZ0151
R622		CARBON RES. 1/6W J 150 OHM	RCX6JATZ0151
R624		PCB JUMPER D0.6-P5.0	JW5.0T
R653		CHIP RES.(1608) 1/10W J 15K OHM	RRXAJR5Z0153
R654		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R655!		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R655!		CARBON RES. 1/6W J 1K OHM	RCX6JATZ0102
R656		CHIP RES.(1608) 1/10W J 15K OHM	RRXAJR5Z0153
R657		CHIP RES.(1608) 1/10W J 15K OHM	RRXAJR5Z0153
R660		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R660		CARBON RES. 1/6W J 1K OHM	RCX6JATZ0102
R661		CARBON RES. 1/4W J 180K OHM	RCX4JATZ0184
R662		CARBON RES. 1/4W J 33K OHM	RCX4JATZ0333
R664!		CHIP RES.(1608) 1/10W J 12K OHM	RRXAJR5Z0123
R665		CHIP RES.(1608) 1/10W J 4.7K OHM	RRXAJR5Z0472
R666!		METAL OXIDE FILM RES. 2W J 15K OHM	RN02153DP004
R667		PCB JUMPER D0.6-P5.0	JW5.0T
R668!		METAL OXIDE FILM RES. 1W J 56K OHM	RN01563DP003
R671		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R672		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R673		CARBON RES. 1/4W J 100K OHM	RCX4JATZ0104
R676		CARBON RES. 1/4W J 10K OHM	RCX4JATZ0103
R681!		CARBON RES. 1/4W J 12 OHM	RCX4JATZ0120
R681!		CARBON RES. 1/6W J 12 OHM	RCX6JATZ0120
R682!		METAL OXIDE FILM RES. 1W J 33 OHM	RN01330ZU001
R682!		METAL OXIDE FILM RES. 1W J 33 OHM	RN01330DP003
R683!		METAL OXIDE FILM RES. 1W J 39 OHM	RN01390ZU001
R683!		METAL OXIDE FILM RES. 1W J 39 OHM	RN01390DP003
R686		CARBON RES. 1/4W J 100 OHM	RCX4JATZ0101
R686		CARBON RES. 1/6W J 100 OHM	RCX6JATZ0101
R687		CARBON RES. 1/4W J 100 OHM	RCX4JATZ0101
R687		CARBON RES. 1/6W J 100 OHM	RCX6JATZ0101
R691		CARBON RES. 1/4W J 15K OHM	RCX4JATZ0153
R701		CHIP RES.(1608) 1/10W J 75 OHM	RRXAJR5Z0750
R702		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R711		CHIP RES.(1608) 1/10W J 47K OHM	RRXAJR5Z0473
R712		CHIP RES.(1608) 1/10W J 3.3K OHM	RRXAJR5Z0332
R801		CARBON RES. 1/2W J 100 OHM	RCX2JZQZ0101
R801		CARBON RES. 1/2W J 100 OHM	RCX2JZPZ0101
R802		CARBON RES. 1/2W J 100 OHM	RCX2JZQZ0101
R802		CARBON RES. 1/2W J 100 OHM	RCX2JZPZ0101
R810!		METAL OXIDE FILM RES. 1W J 8.2 OHM	RN018R2ZU001
R810!		METAL OXIDE FILM RES. 1W J 8.2 OHM	RN018R2DP003
R811		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R812!		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R821		CHIP RES.(1608) 1/10W J 12K OHM	RRXAJR5Z0123
R822		CHIP RES.(1608) 1/10W J 5.6K OHM	RRXAJR5Z0562
R831		CHIP RES.(1608) 1/10W J 470K OHM	RRXAJR5Z0474
R832		CHIP RES.(1608) 1/10W J 6.8K OHM	RRXAJR5Z0682
RCV101		REMOCON RECEIVE UNIT MIM-93M8DKL	USESJRSUNT02
RCV101		REMOCON RECEIVE UNIT PIC-26042SR-2	USESJRSKK032
RCV101		REMOCON RECEIVE UNIT PIC-37042SR	USESJRSKK034
SA601!		SURGE ABSORBER JVR-07N471K	NVQZVR07N471
SA601!		SURGE ABSORBER CNR-10D471K	NVQZR10D471K
SA601!		SURGE ABSORBER CNR-07D471K	NVQZR07D471K
SA601!		SURGE ABSORBER PVR-07D471KB	NVQZ07D471KB
SA601!		SURGE ABSORBER AVR-S07D471KAAS	QVQZ0AVRS07D

SA601!		VARISTOR ENC471D-07A	QVQZ0471D07A
SF1		SAW FILTER SAFGM45M7VHGZM0B03	FBB456PMR007
T571!		FLYBACK TRANSFORMER JF0501-2418	LTF00CPXB026
T571!		FLYBACK TRANS BSC21-2016S	LTF00CPS2040
T571!		FLYBACK TRANS BSC25-0241	LTF00CPP1007
T571!		FLYBACK TRANS FNI14A001	LTF00CPSM018
T572		H0RIZONTAL DRIVE TRANS LP2-005	LTH00CPA5005
T601!		SWITCHING TRANS 1708-S03	LTT00CPKT087
T601!		SWICHING TRANS SA-085A	LTT00CPSA115
T601!		SWITCHING TRANS CSA-SW0050	LTT00CPSA120
TP300		PCB JUMPER D0.6-P15.0	JW15.0T
TP301		PCB JUMPER D0.6-P20.0	JW20.0T
TP601		PCB JUMPER D0.6-P10.0	JW10.0T
TU1		TUNER ENV56DB3G3	UTUNNTUMS009
TU1		TUNER UNIT TEDH9-309A	UTUNNTUAL031
VR661		CARBON P.O.T. 30K OHM B	VRCB303KA011
VR661		CARBON P.O.T. 30K OHM B	VRCB303HH014
X101		CERAMIC RESONATOR KBR-8.0MKC	FY0805PKC002
X101		CERAMIC FILTER CSTS0800MG003	FY0805PMR001
X101		CERAMIC RESONATOR ZTT 8.00MHZ	FY0805PLN001
X101		CERAMIC RESONATOR FCR8.0MC	FY0805PTE001
X344		X'TAL 3.579545 MHZ	FXD355LLN003
X344		X'TAL 3.579545MHZ(30PPM)	FXD355LCHE01
		CRT & TACT SW CBA	0ESA05337
		Consists of the following	
		CRT CBA	----------
		FUNCTION CBA	----------
		JACK A CBA	----------
		JACK B CBA	----------
		CRT CBA	----------
BC501		BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
C501		CERAMIC CAP.(AX) B K 270PF/50V	CCA1JKT0B271
C502		CERAMIC CAP.(AX) B K 270PF/50V	CCA1JKT0B271
C503		CERAMIC CAP.(AX) B K 330PF/50V	CCA1JKT0B331
C504		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASTL470
C504		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASDL470
C510		CERAMIC CAP. B K 1000PF/2KV	CCD3DKD0B102
C510		CERAMIC CAP. B K 1000PF/2KV	CCD3DKP0B102
C510		CERAMIC CAP. B K 1000PF/2KV	CA3D102MR030
CN301B		STRAIGHT CONNECTOR BASE 00 8283 0512 00 000	J383C05UG002
CN301B		STRAIGHT PIN HEADER, 5P 173981-5	1770261
CN501		PIN CONNECTOR 005P-5100	JTEA001TG001
CN581B		CONNECTOR BASE STRIGHT	J383C03UG002
CN581B		STRAIGHT PIN HEADER, 3P 173981-3	1770259
D501		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D501		SWITCHING DIODE 1N4148	NDTZ001N4148
D502		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D502		SWITCHING DIODE 1N4148	NDTZ001N4148
D503		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D503		SWITCHING DIODE 1N4148	NDTZ001N4148
JK501!		CRT SOCKET ISMS02S	JSCC220PK003
L501		INDUCTOR 180UH-J-5FT	LLARJCSTU181
L501		INDUCTOR 180UH-K-5FT	LLARKDSKA181
Q501		TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
Q501		TRANSISTOR 2SC3468(E)-AE	QQSE02SC3468

Q501		TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q501		TRANSISTOR KTC3207	NQSZ0KTC3207
Q502		TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
Q502		TRANSISTOR 2SC3468(E)-AE	QQSE02SC3468
Q502		TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q502		TRANSISTOR KTC3207	NQSZ0KTC3207
Q503		TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
Q503		TRANSISTOR 2SC3468(E)-AE	QQSE02SC3468
Q503		TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q503		TRANSISTOR KTC3207	NQSZ0KTC3207
R501!		METAL OXIDE FILM RES. 1W J 15K OHM	RN01153ZU001
R501!		METAL OXIDE FILM RES. 1W J 15K OHM	RN01153DP003
R502!		METAL OXIDE FILM RES. 1W J 15K OHM	RN01153ZU001
R502!		METAL OXIDE FILM RES. 1W J 15K OHM	RN01153DP003
R503!		METAL OXIDE FILM RES. 1W J 15K OHM	RN01153ZU001
R503!		METAL OXIDE FILM RES. 1W J 15K OHM	RN01153DP003
R504		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
R505		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
R506		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
R509		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
R511		CARBON RES. 1/4W J 33 OHM	RCX4JATZ0330
R511		CARBON RES. 1/6W J 33 OHM	RCX6JATZ0330
R512		CARBON RES. 1/4W J 33 OHM	RCX4JATZ0330
R512		CARBON RES. 1/6W J 33 OHM	RCX6JATZ0330
R513		CARBON RES. 1/4W J 33 OHM	RCX4JATZ0330
R513		CARBON RES. 1/6W J 33 OHM	RCX6JATZ0330
R514		CARBON RES. 1/4W J 8.2K OHM	RCX4JATZ0822
R515		CARBON RES. 1/4W J 8.2K OHM	RCX4JATZ0822
R516		CARBON RES. 1/4W J 8.2K OHM	RCX4JATZ0822
R517		CARBON RES. 1/4W J 560 OHM	RCX4JATZ0561
R517		CARBON RES. 1/6W J 560 OHM	RCX6JATZ0561
R518		CARBON RES. 1/4W J 560 OHM	RCX4JATZ0561
R518		CARBON RES. 1/6W J 560 OHM	RCX6JATZ0561
R519		CARBON RES. 1/4W J 560 OHM	RCX4JATZ0561
R519		CARBON RES. 1/6W J 560 OHM	RCX6JATZ0561
R537		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
R538		CARBON RES. 1/4W J 1.5K OHM	RCX4JATZ0152
TP501		PCB JUMPER D0.6-P10.0	JW10.0T
TP502		PCB JUMPER D0.6-P10.0	JW10.0T
		FUNCTION CBA	----------
CN101B		WIRE ASSEMBLY WX1L6310-003	WX1L6310-003
R101		CARBON RES. 1/4W J 2.2K OHM	RCX4JATZ0222
R102		CARBON RES. 1/4W J 1.8K OHM	RCX4JATZ0182
R103		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R104		CARBON RES. 1/4W J 4.7K OHM	RCX4JATZ0472
R105		CARBON RES. 1/4W J 8.2K OHM	RCX4JATZ0822
R106		PCB JUMPER D0.6-P5.0	JW5.0T
SW101		TACT SWITCH SKQSAB	SST0101AL038
SW101		TACT SWITCH KSM0612B	SST0101HH003
SW101		TACT SWITCH SKHHAP	SST0101AL028
SW102		TACT SWITCH SKQSAB	SST0101AL038
SW102		TACT SWITCH KSM0612B	SST0101HH003
SW102		TACT SWITCH SKHHAP	SST0101AL028
SW103		TACT SWITCH SKQSAB	SST0101AL038
SW103		TACT SWITCH KSM0612B	SST0101HH003
SW103		TACT SWITCH SKHHAP	SST0101AL028

SW104		TACT SWITCH SKQSAB	SST0101AL038
SW104		TACT SWITCH KSM0612B	SST0101HH003
SW104		TACT SWITCH SKHHAP	SST0101AL028
SW105		TACT SWITCH SKQSAB	SST0101AL038
SW105		TACT SWITCH KSM0612B	SST0101HH003
SW105		TACT SWITCH SKHHAP	SST0101AL028
SW106		TACT SWITCH SKQSAB	SST0101AL038
SW106		TACT SWITCH KSM0612B	SST0101HH003
SW106		TACT SWITCH SKHHAP	SST0101AL028
		JACK A CBA	----------
CN811B		WIRE ASSEMBLY WX1L6310-005	WX1L6310-005
JK811		RCA JACK(BLACK) AV1-09S-1	JYRL010RP007
		JACK B CBA	----------
CN812B		WIRE ASSEMBLY WX1L6310-004	WX1L6310-004
JK812		RCA JACK(BLACK) AV1-09S-1	JYRL010RP007

DT1300-C/DT1300-P/DT1300-A

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